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POLSIM

A MICRO-SIMULATION MODEL
FOR POLICY ANALYSIS

Volume 2

APPENDICES A, B, C



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APPENDIX A

INITIAL YEAR STATE DESCRIPTION



APPENDIX A.1

CONSISTENCY OF PROBABILITIES AND PROCESS SEQUENCE

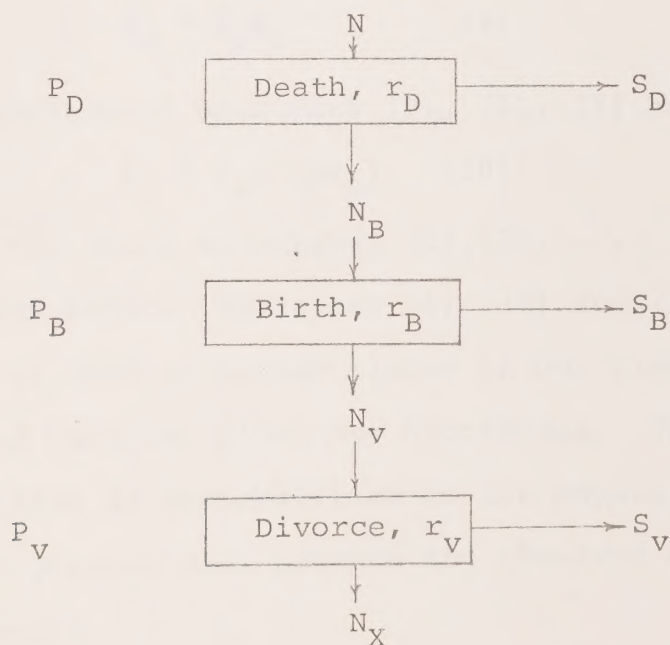


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CONSISTENCY OF PROBABILITIES AND PROCESS SEQUENCE

Consider the following processes ordered in the same sequence in the POLSIM model as listed here: "Death", "Birth", and "Divorce". We are able to observe only two kinds of statistics, the population at risk, N , at the beginning of a time period (e.g. one year) and the frequency of success, S_i , for each of the processes during the given time period. We can construct a number associated with each process, $r_i \equiv S_i/N$ which we term the ratio of the process. Input to each process is its population at risk (N , N_B , or N_V as the case may be) and output is the altered population due to the process. (We cannot of course observe these intermediate populations in the real world.) The by-product of the process is the number of successes of the process. This is illustrated below:



If the initial population is N , then the successes, by definition of the ratios of the processes, are given simply by:

$$S_D = Nr_D \quad (1)$$

$$S_B = Nr_B \quad (2)$$

$$S_V = Nr_V \quad (3)$$

Suppose that in the simulation we use the numbers P_D , P_B and P_V , as shown beside each process as the relevant probability. From the "Death" process and the hypothesis that bearing a child or becoming divorced does not affect the probability of dying, we have,

$$S_D = P_D \cdot N \quad (4)$$

$$\text{and } N_B = (1 - P_D)N \quad (5)$$

By comparison of equations (1) and (4) we have:

$$P_D = r_D \quad (6)$$

From the "Birth" process and the hypothesis that divorce does not depend on the birth process we have,

$$S_B = P_B N_B \quad (7)$$

By comparison of equations (7), (5) and (2) we have;

$$P_B = r_B / (1 - r_D) \quad (8)$$

From the "Divorce" process we have,

$$S_V = P_V N_V \quad (9)$$

By comparison of equations (9), (6), (5) and (3) we derive,

$$P_V = r_V / (1 - r_D) \quad (10)$$

All of the above equations, (1), (2),, (10) are consistent with each other. Equations (6), (8) and (10) provide numbers which, if used as probabilities in our simulation, produce unbiased results, given our hypotheses. That is, their application as probabilities to the population at risk inputted to each process will produce the observed number of successes. For example,

$$S_B = P_B N_B$$

$$S_B = \frac{r_B}{1 - r_D} N_B = N r_B$$

$$\text{and } N_B = (1 - r_D)N$$

$$N_B = N - r_D N$$

$$N_B = N - P_D N$$

$$N_B = N - S_D$$

APPENDIX A.2

THE INITIAL YEAR STATE VECTOR

THE INITIAL YEAR STATE VECTOR

Chapter 2 listed the elements of the individual state vector, and the data source from which it was derived. This Appendix provides additional information. Appendix A.2.1 lists the complete state vector, along with the definition of the individual elements, the code by which each element can be interpreted, and the way in which each element was derived from the Survey of Consumer Finance. Appendix A.2.2 contains the record layout for the actual initial year tape.

APPENDIX A.2.1

DESCRIPTION OF THE INITIAL YEAR STATE VECTOR

DESCRIPTION OF THE INITIAL YEAR STATE VECTOR

1. Previous Year Family Unit Number (LYUNIT)

(a) Definition

This is simply an integer defining the family that the person belonged to in the previous year. Its purpose is to enable the POLSIM model to keep track of individuals through time. A person's present year family identifier would change, for example, if he were to leave home and get married. The previous year identifier would then be the means by which historical continuity was maintained.

(b) Code

The numbers are simply sequential integers. The first family on the base tape is assigned the identifier "one", the second "two", etc.

(c) Base Tape Designation

The number assigned on the base tape is exactly the same as the "Family Identifier".
(see 2 below)

2. Family Unit Identifier (UNIT)

(a) Definition

This is a number uniquely defining the family to which the individual belongs.

(b) Code

The numbers are sequential integers. The first family on the base tape is assigned the identifier "one", the second "two", and so on.

(b) Base Tape Designation

On the SCF Weighted Work file, a family is uniquely defined by the following six variables: the primary sampling unit number, the segment number, the household number, the multiple household number, economic family unit number, and the census family unit. All individuals on the SCF file who have these numbers in common are assigned a common family unit number. Every member of the first family is assigned a "one", every member of the second a "two", and so on.

3. Province (PROVIN)

(a) Definition

This is the province in which the person resides.

(b) Code

1 - Nfld.	6 - Ont.
2 - P.E.I.	7 - Man.
3 - N.S.	8 - Sask.
4 - N.B.	9 - Alta.
5 - P.Q.	10 - B.C.

(c) Base Tape Designation

The first digit of the five digit primary sampling unit number on the SCF file defines the individual's province of residence.

4. Size of Family (SIZE)

(a) Definition

This is the number of persons within a given individual's family.

(b) Code

An integer number.

(c) Base Tape Designation

For every family on the base year tape, this number is inferred by counting up the number of individuals with a common family unit identifier. This number is then assigned to all individuals within the given family.

5. Census Family Relationship (DEPNKY)

(a) Definition

This variable defines the person's place in the family: whether he is the family head, a spouse or a dependent.

(b) Code

- 0 - Head
- 1 - Spouse
- 2 - Dependents

(c) Base Tape Designation

The 1971 SCF file defines 6 family relationships: head, wife, son or daughter, grandchild, brother or sister and brother or sister-in-law, and other relative. The latter 5 relations are all with respect to the head.

The base tape maintains the "head" and "wife" distinctions, and classifies all children and grandchildren as dependents. All records containing the last 2 relationships, brother or sister and brother or sister-in-law, and other relative, are omitted on the POLSIM base tape.

The number of records involved here is negligible, and in no way affects the total population size.

6. Marital Status (MSTAT)

(a) Definition

This is the person's marital status.

(b) Code

- 1 - Single
- 2 - Married
- 3 - Other
- 4 - Married but spouse absent

(c) Base Tape Designation

The first 3 codes are copied directly from the SCF file. The fourth code, "married but spouse absent", is added if the family head's marital status indicates that he is married, but upon a search of the family, no spouse is found.

7. Age (AGE)

The individual's actual age is coded as an integer. On the base tape, age is copied directly from the SCF file.

8. Sex (SEX)

The individual's sex is coded as: 1 - Male, 2 - Female. On the base tape, for adults, the sex code is copied directly from the SCF file. Children less than 14 do not have a sex designation on the SCF file, and so it must be assigned in the creation of the base year tape. This is done on the basis that the probability of a child being a male is .5126.

9. Major Source of Income (MAJSIN)

(a) Definition

Major source of income is the largest component of the individual's income. It is inferred directly from the income variables of the SCF tape.

(b) Code

1. Investment Income
2. Farm selfemployment income
3. Non-farm self-employment income
4. Wages and salaries
5. No Income

10. Weeks in School (WKSCHL)

11. Weeks Employed (WKEMP)

12. Weeks Unemployed (WKUNEM)

13. Weeks in the Non-Labour Force (WKNLFF)

(a) Definition

These variables define the number of weeks during the year that the person spent in the four mutually exclusive states: school, employment, unemployment and non-labour force. The four variables will always sum to 52.

(b) Code

The actual number of weeks is coded, as an integer.

(c) Base Year Designation

The four variables were derived from the SCF records of weeks worked, weeks unemployed, labour force status, and education level as follows:

- (i) If a person's labour force status as given in the SCF file indicated that the individual was in the non-labour force, then the weeks in the non-labour force was calculated as the weeks in a year minus the sum of weeks employed and weeks unemployed. The weeks at school

variable was set to zero. If, however, the difference (weeks in non-labour force) for the above calculation proved to be negative, i.e., the weeks employed plus the weeks unemployed was greater than 52, then the amount that the sum was greater than 52 was divided by 2 and this quotient subtracted from weeks employed and weeks unemployed. (Note must be taken that a slight roundoff error will occur.) Weeks in non-labour force in this case, was set to zero.

- (ii) If the labour force status, combined with the April activity code (see 14 below), indicated that the person was in secondary school, then the weeks in school was set to forty. The weeks in the non-labour force was computed as the remaining weeks in the year (twelve) minus the sum of weeks employed and weeks unemployed as given in the SCF file. If the resulting difference was negative, i.e., if the sum of the weeks employed plus the weeks unemployed was greater than twelve, then the amount by which the sum was greater than twelve was subtracted from the weeks in school. In other words, it was assumed that the individual spent less than 40 weeks in school ($52 - WKEMP - WKUNEM$, to be exact). The weeks in the non-labour force was set to zero while the fields for weeks employed and weeks unemployed were left as they were on the SCF file.
- (iii) If labour force status and yearly activity codes indicated that the person was in post-secondary school then the weeks in school was set to twenty-eight. The weeks in the non-labour force was calculated as the weeks remaining in the year (twenty-four), minus the sum of weeks employed and weeks unemployed. Again, if this value results in a negative

number, then the amount by which the sum of weeks employed and weeks unemployed was greater than twenty-four was subtracted from the number of weeks in school; i.e., the individual spent more than the allotted twenty-eight weeks out of a post-secondary school. The weeks in the non-labour force in this case were set to zero. The fields for weeks employed and weeks unemployed were left with their original values as given in the SCF file.

- (iv) For a person in the labour force, the number of weeks in the non-labour force was computed simply as the number of weeks in a year minus the sum of weeks employed and weeks unemployed. The fields for weeks employed and weeks unemployed were left with their original values and the value for weeks in school was set to zero.
- (v) For an individual whose age was less than fourteen years the weeks in the non-labour force was set to twelve, the weeks in school was set to forty and the fields for weeks employed and weeks unemployed was set to zero.

14. Education (EDUCTN)

(a) Definition

This variable defines the highest level of education attained by the individual.

(b) Code

1 - Grade 9	11 - Univ 3
2 - Grade 10	12 - Univ 4
3 - Grade 11	13 - Univ 5
4 - Grade 12	14 - Univ 6
5 - Grade 13	15 - Univ 7
6 - CAAT 1	16 - Univ 8
7 - CAAT 2	17 - Univ 9
8 - CAAT 3	18 - Univ 10
9 - Univ 1	19 - Less than Grade 9

10 - Univ 2

(c) Base Year Designation

The education status of the individual was inferred from the education field on the SCF file. If the SCF record indicated "no schooling" or "less than grade 9", the person was assigned code 19, "less than grade 9". If the person's labour force status indicated that he was at present in school, then his education status became identical to his April Activity Status (see below). For all others, the mapping from the SCF code to the POLSIM code was as follows:

<u>SCF</u>	<u>POLSIM</u>
a) High School not complete	Grade 10
b) Vocational HS complete	Grade 12
c) High School complete, academic	Grade 12 or 13 (Ontario)
d) Non-University Some	CAAT 2
e) Non-University Complete	CAAT 3
f) University some	UNIV 1
g) University Completed - Diploma	UNIV 3
h) University Completed - Degree	UNIV 3

15. April Activity Status (YRACT)

- (a) This variable indicates a person's activity status or "what he is doing" in April of the year being simulated. A year, in POLSIM, runs from April through March. The reason for this variable is to provide continuity from year to year, as regards a person's labour force behaviour and his progress through school.

(b) Code

1 - Grade 9	13 - Univ 5
2 - Grade 10	14 - Univ 6
3 - Grade 11	15 - Univ 7
4 - Grade 12	16 - Univ 8
5 - Grade 13	17 - Univ 9
6 - CAAT 1	18 - Univ 10
7 - CAAT 2	19 - Unused
8 - CAAT 3	20 - Emp.
9 - Univ 1	21 - Unemp.
10 - Univ 2	22 - Non-Labour Force
11 - Univ 3	23 - Age Less Than 14
12 - Univ 4	

(c) Base Year Designation

If the person's labour force status on the SCF record indicates that he is employed, unemployed, or a member of the non-labour force, then he is assigned codes 20, 21 or 22, as the case may be. If he is younger than 14 he is assigned code 23. If his labour force status indicates that he is in school, then his place in school is assigned as follows:

- a) If the person has not completed secondary school, and his age is 17 or less, then he is assigned a grade on the assumption that 14 year olds are in grade 9, 15 year olds in grade 10, and so on.
- b) If the person has not completed high school, but is 18 or over, then it is assumed he is in his last year of high school (grade 13 in Ontario; grade 12 elsewhere).
- c) Those who have partially completed work at a University or community college are assigned CAAT 2 or UNIV 2, as the case may be.

- d) Those who have completed community college are assigned Code 8, "CAAT 3".
- e) Those who have completed a diploma or certificate program are assigned Code 12, "UNIV 4".
- f) Those who have completed a university degree program are assigned Code 14, "UNIV 6".

16. Weight (WEIGHT)

(a) Definition

The base year tape contains the records of approximately 400,000 individuals, each one representative of 2% of the Canadian population. The weighting factor is thus simply the integer 50, the number required to raise the base year population to the total Canadian population.

(b) Base Year Designation

The weights given on the SCF records are not equal weights. One family may have weight 100, another 200, and so on. In addition, the SCF weights are such as to weigh the sample to 10% of the full population, rather than the full population itself.

This kind of weighting system is not consistent with the logic of the POLSIM model. In POLSIM, the processes of marriage, birth, divorce, etc., require that all persons have equal weights, and this in turn requires that the lowest common divisor of the given SCF weights be selected as the common weight, and that additional records be created for any family whose weight exceeded this value. For example, a single family of weight 100 would be equivalent to 20 families of weight 5. So 19 additional identical records would have to be created on the base year tape.

Inspection of the data indicated that the lowest "practical" common divisor was 5, and this weight was chosen as the common weight to be made applicable to all individuals on the base tape. (A weight of 5 to 10% of the total population is equivalent to a weight of 50 to the full population.)

Unfortunately, the true common divisor of all the weights was not 5, but one. That is, not all of the SCF weights were perfectly divisible by 5. This creates problems for the replicating process. Suppose that a family's SCF weight was 11. Then, strictly speaking, it would be necessary to carry 2.2 such families, with weight 5, on the base tape. Since this is not possible, a random rounding procedure was adopted to convert the SCF weights to multiples of 5. In the above example, this would mean that the original weight would be converted to either 10 or 15, with probabilities .8 and .2 respectively. Division by 5 would then yield either 2 or 3, and this would then be the number of families added to the equal weighted base tape.

17. Employment Category (TYPE)

(a) Definition

This variable defines the way in which a person relates to the labour force. It is a sort of catch-all variable that indicates whether a person is likely to never become unemployed, is likely to be subject to unemployment, is retired and so on. The complete list of possible "Type's" is given below.

(b) Code

- (i) 14 - This is a "Class A" person (a male who is either self-employed, or employed in a professional, technical, or managerial capacity, and who by definition may never become unemployed) who on retirement will receive no private pension.

- (ii) 15 - A "Class A" person who on retirement will receive a private pension.
- (iii) 24 - A "Class B" person (by definition not a "Class A" person; someone who is subject to unemployment) who on retirement will receive no private pension.
- (iv) 25 - A "Class B" person who on retirement will receive a private pension.
- (v) 3 - A person who has never been a member of the labour force.
- (vi) 4 - A retired person who does not receive a private pension.
- (vii) 5 - A retired person who is eligible for a private pension.
- (viii) 140, 150, 240, 250, 40, 50.

These are exactly the same as 14, 15, 24, 25, 4 and 5 except that the person has not yet had an initial income assigned to him, or has just had an initial income assigned but has not yet gone through an income transition.

(c) Base Year Designation

It is first determined whether a person can be assigned a "Class A" or a "Class B" designation. This is done on the basis of the "Occupation-A", "Occupation-B", and the income fields on the SCF record. If the individual is a male who is either self-employed (as inferred from his sources of income), or employed in a managerial or professional capacity, then he is assigned "Class A" status. All other people with occupations are assigned "Class B" status. If a person's occupation field is coded "not applicable" he is designated as temporarily "unclassified" (Type 3).

It is then determined whether the "Class A" and "Class B" persons are in pensionable employment. This is decided on the basis of a "participation rate in pensionable employment" (See the Activity Block main text and appendix for details). "Class A" persons in pensionable employment are assigned "TYPE 15", while those in non-pensionable employment are assigned "TYPE 14". Similarly, "Class B" persons are assigned TYPE's 25 and 24.

Unclassified persons are presumed to be out of the labour force. If they are receiving pension income it is assumed they are retired and "TYPE 5" is assigned. If they are not receiving pension income, but are 65 or older, they are again assumed to be retired. In this case "TYPE 4" is assigned. If the person is not retired, "TYPE 3" is assigned.

18. Employment Income (EMPINC)

(a) Definition

This is the total income that a person receives from employment.

(b) Code

The actual dollar value is coded.

(c) Base Year Designation

Employment income is the sum of the values given in the "wages and salaries", "military pay and allowances", and "net income from self-employment" fields of the SCF record.

19. Interest and Other Investment Income (INTRST)

(a) Definition

This is the total income a person receives in the form of interest plus all other investment income with the exception of dividends.

(b) Code

The actual dollar value is coded.

(c) Base Year Designation

This variable is the sum of the values given in the "interest" and "other investment income" fields of the SCF record.

20. Dividends (DIVDNS)

21. Retirement Pension, Superannuation, and Annuities (RETIRE)

22. Other Money Income (OTHER)

(a) Definition

These are the total incomes a person receives in the designated forms.

(b) Code

The actual dollar values are coded.

(c) Base Year Designation

The relevant fields of the SCF record are copied directly.

23. Total Income (TOTAL)

(a) Definition

This is the total market income a person receives.

(b) Code

The actual dollar value is coded.

(c) Base Year Designation

The required value is obtained by summing all of the incomes listed above.

APPENDIX A.3

POPULATION TABLES

Table A3.1

Survey of Consumer Finances Population of Canada, April 1, 1972

<u>Age Group</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>
0-4	1,801,010		1,801,010
5-9	2,191,450		2,191,450
10-14	2,102,890	216,070	2,318,960
15-19	1,046,910	1,026,530	2,073,440
20-24	905,090	912,660	1,817,750
25-29	784,440	805,030	1,589,470
30-34	655,630	688,190	1,343,820
35-39	632,010	626,580	1,258,590
40-44	652,330	638,660	1,290,990
45-49	598,830	619,690	1,218,520
50-54	527,650	526,480	1,054,130
55-59	449,880	435,410	885,290
60-64	368,200	372,290	740,490
65-69	322,050	341,180	663,230
70-74	213,160	248,120	461,280
75-79	135,230	176,200	311,430
80-84	83,790	94,190	177,980
85-89	32,980	40,700	73,680
90-94	11,450	10,620	22,070
95+	1,960	3,150	5,110
Total	13,516,940	7,781,750	21,298,690

Source: 1972 Survey of Consumer Finances

Table A3.2

1971 Base Year Model Population of Canada

<u>Age Group</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>
0-4	922,900	879,600	1,802,500
5-9	1,119,850	1,068,250	2,188,100
10-14	1,179,850	1,138,850	2,318,700
15-19	1,047,250	1,027,350	2,074,600
20-24	905,550	912,650	1,818,200
25-29	784,400	804,700	1,589,100
30-34	654,950	687,850	1,342,800
35-39	631,400	626,050	1,257,450
40-44	651,900	638,600	1,290,500
45-49	598,750	618,400	1,217,150
50-54	527,500	526,750	1,054,250
55-59	450,550	435,250	885,800
60-64	368,750	372,200	740,950
65-69	321,400	341,700	663,100
70-74	212,850	247,850	460,700
75-79	135,300	175,950	311,250
80-84	83,450	94,200	177,650
85-89	33,050	40,400	73,450
90-94	11,200	10,700	21,900
95+	1,950	3,100	5,050
Total	10,642,800	10,650,400	21,293,200

Source: Produced by equal weighting routine from the 1972 Survey of Consumer Finances

Table A3.3

Census Population of Canada, June 1, 1971

<u>Age Group</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>
0-4	929,600	886,555	1,816,155
5-9	1,152,425	1,101,580	2,254,005
10-14	1,181,450	1,129,285	2,310,735
15-19	1,074,435	1,039,915	2,114,350
20-24	941,775	947,630	1,889,405
25-29	800,710	783,410	1,584,120
30-34	660,870	644,550	1,305,420
35-39	645,045	618,825	1,263,870
40-44	640,770	621,760	1,262,530
45-49	613,415	625,630	1,239,045
50-54	518,900	533,640	1,052,540
55-59	472,415	482,315	954,730
60-64	381,695	395,320	777,015
65-69	296,050	323,905	619,955
70-74	205,575	251,800	457,375
75-79	139,995	185,515	325,510
80-84	85,680	118,490	204,170
85-89	40,625	59,390	100,015
90-94	11,355	18,815	30,170
95+	2,585	4,620	7,205
Total	10,795,370	10,772,950	21,568,320

Source: Census Division, Statistics Canada

Table A3.4

Relative Population Errors of 1972 Survey of Consumer Finances*

(Percent)

<u>Age Group</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>
0-4			- 0.8
5-9			- 2.8
10-14			0.4
15-19	- 2.6	- 1.3	- 1.9
20-24	- 3.9	- 3.7	- 3.8
25-29	- 2.0	2.8	0.3
30-34	- 0.8	6.8	2.9
35-39	- 2.0	1.3	- 0.4
40-44	1.8	2.7	2.3
45-49	- 2.4	- 0.9	- 1.7
50-54	1.7	- 1.3	0.2
55-59	- 4.8	- 9.7	- 7.3
60-64	- 3.5	- 5.8	- 4.7
65-69	8.8	5.3	7.0
70-74	3.7	- 1.5	0.9
75-79	- 3.4	- 5.0	- 4.3
80-84	- 2.2	-20.5	-12.8
85-89	-18.8	-31.5	-26.3
90-94	0.8	-43.6	-26.8
95+	-24.2	-31.8	-29.1
Total			- 1.3

* Relative to the 1971 Census

Source: Tables A3.1 and A3.3

Table A3.5

Relative Errors of 1971 Base Year Model Population*

(Percent)

<u>Age Group</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>
0-4	- 0.7	- 0.8	- 0.8
5-9	- 2.8	- 3.0	- 2.9
10-14	- 0.1	0.8	0.3
15-19	- 2.5	- 1.2	- 1.9
20-24	- 3.8	- 3.7	- 3.8
25-29	- 2.0	2.7	0.3
30-34	- 0.9	6.7	2.9
35-39	- 2.1	1.2	- 0.5
40-44	1.7	2.7	2.2
45-49	- 2.4	- 1.2	- 1.8
50-54	1.7	- 1.3	0.2
55-59	- 4.6	- 9.8	- 7.2
60-64	- 3.4	- 5.8	- 4.6
65-69	8.6	5.5	7.0
70-74	3.5	- 1.6	0.7
75-79	- 3.4	- 5.2	- 4.4
80-84	- 2.6	-20.5	-13.0
85-89	-18.6	-32.0	-26.6
90-94	- 1.4	-43.1	-27.4
95+	-24.6	-32.9	-29.9
Total	- 1.4	- 1.1	- 1.3

* Relative to the 1971 Census

Source: Tables A3.2 and A3.3

Table A3.6

Survey of Consumer Finances Population of Canada, April 1, 1972

Province	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54
Newfoundland	62,990	70,000	69,640	56,960	39,890	34,470	27,010	27,060	22,590	22,660	24,720
2) Prince Edward Island	10,230	12,870	11,900	10,260	8,610	8,280	5,190	4,800	5,090	5,740	6,340
Nova Scotia	75,360	89,870	89,310	77,370	63,230	53,120	45,720	43,240	37,870	37,640	41,230
4) New Brunswick	57,370	72,620	72,350	65,630	50,080	43,130	37,240	31,830	31,560	30,730	28,390
5) Quebec	449,990	638,520	699,770	618,200	536,400	447,770	397,830	385,590	371,090	332,690	289,860
6) Ontario	665,830	741,440	770,760	702,340	662,290	606,170	494,860	442,510	490,500	480,100	382,750
7) Manitoba	77,870	97,230	105,230	93,390	80,330	56,170	49,860	54,200	54,770	56,730	59,250
8) Saskatchewan	71,550	77,960	85,310	88,850	63,000	49,730	41,110	43,930	52,540	52,890	48,730
9) Alberta	134,880	179,220	188,090	163,430	131,770	118,890	98,640	88,160	104,230	86,080	68,230
British Columbia	194,940	211,720	226,600	197,010	182,150	171,740	146,360	137,270	120,750	113,260	104,830
TOTAL	1,801,010	2,191,450	2,318,960	2,073,440	1,817,750	1,589,470	1,343,820	1,258,590	1,290,990	1,218,520	1,054,130

Table A3.6 (cont'd.)

Province	55-59	60-64	65-69	70-74	75-79	80-84	85-89	90-94	95+	Total
1) Newfoundland	17,280	14,880	10,810	9,880	7,550	3,710	1,850	270	0	524,220
2) Prince Edward Island	4,220	3,680	3,230	2,670	2,950	2,310	440	310	140	109,260
3) Nova Scotia	40,350	32,040	23,830	17,050	13,420	8,450	4,380	1,310	750	795,540
4) New Brunswick	28,290	22,750	18,110	14,180	9,990	5,410	3,100	620	180	623,560
5) Quebec	227,760	192,660	171,020	105,690	77,490	33,760	13,110	4,580	450	5,994,230
6) Ontario	326,370	265,420	243,280	172,410	108,290	64,300	21,640	7,470	1,030	7,649,760
7) Manitoba	46,320	36,900	33,020	25,100	16,490	11,660	7,580	1,590	590	964,280
8) Saskatchewan	46,670	38,990	32,900	23,290	14,730	12,290	5,030	1,410	260	851,170
9) Alberta	59,520	50,040	50,550	35,850	23,530	12,660	5,870	1,100	660	1,601,200
10) British Columbia	88,510	83,130	76,480	55,160	36,990	23,430	10,680	3,410	1,050	2,185,470
TOTAL	885,290	740,490	663,230	461,280	311,430	177,980	73,680	22,070	5,110	21,298,690

Source: 1972 Survey of Consumer Finances

1971 Base Year Model Population of Canada

Province	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54
Prince Edward Island	62,800	68,950	69,850	57,100	40,500	34,150	26,150	27,350	21,750	22,700	24,900
Nova Scotia	10,200	12,350	11,600	9,650	8,500	8,450	4,900	5,000	5,150	5,750	6,150
New Brunswick	76,200	90,450	89,700	77,650	62,300	53,450	46,400	43,050	37,800	37,350	40,700
Newfoundland	57,800	72,950	72,400	65,700	50,400	43,050	37,250	31,900	31,800	30,700	28,200
Quebec	449,550	638,200	700,300	618,400	536,800	448,600	397,650	385,250	371,650	332,850	290,450
Ontario	666,050	739,600	769,450	702,900	662,000	605,800	494,600	441,500	490,450	479,450	382,750
Manitoba	77,900	96,900	104,500	93,650	80,350	55,900	49,700	54,000	54,500	56,700	59,500
Saskatchewan	71,850	78,250	85,300	88,650	63,500	49,300	41,050	44,050	52,500	52,650	49,100
Alberta	135,150	178,600	188,450	163,800	131,600	118,850	98,450	88,150	103,850	85,600	63,100
British Columbia	195,000	211,850	227,150	197,100	182,250	171,550	146,650	137,200	121,050	113,400	104,400
Total	1,802,500	2,188,100	2,318,700	2,074,600	1,818,200	1,589,100	1,342,800	1,257,450	1,290,500	1,217,150	1,054,250

Table A3.7 (cont'd.)

Province	55-59	60-64	65-69	70-74	75-79	80-84	85-89	90-94	95+	Total
1) Newfoundland	17,900	15,000	10,950	9,650	7,800	3,650	1,900	250	0	523,300
2) Prince Edward Island	3,950	3,800	3,150	2,650	3,100	2,450	450	300	150	107,700
3) Nova Scotia	40,100	31,850	23,450	17,000	13,050	8,600	4,350	1,300	700	795,450
4) New Brunswick	27,750	22,550	18,300	13,800	9,350	5,200	3,000	600	150	622,850
5) Quebec	227,150	192,950	171,300	105,350	78,300	34,000	13,150	4,600	450	5,996,950
6) Ontario	327,700	265,400	243,200	172,650	108,200	64,100	21,550	7,400	1,000	7,645,750
7) Manitoba	46,450	36,750	33,050	25,450	16,750	11,600	7,600	1,600	600	963,450
8) Saskatchewan	46,250	39,200	32,400	23,350	14,500	12,100	4,800	1,400	250	850,450
9) Alberta	59,750	50,200	50,600	35,800	23,500	12,650	6,000	1,100	700	1,600,900
10) British Columbia	88,800	83,250	76,700	55,000	36,700	23,300	10,650	3,350	1,050	2,186,400
Total	885,800	740,950	663,100	460,700	311,250	177,650	73,450	21,900	5,050	21,293,200

Source: Produced by equal weighting routine from the 1972 Survey of Consumer Finances

Table A3.8

Census Population of Canada, June 1, 1971

Province	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54
Newfoundland	61,665	67,695	65,220	59,620	44,600	34,935	27,460	25,335	23,895	22,945	21,850
2) Prince Edward Island	10,000	12,570	12,830	11,555	9,250	6,395	5,715	5,540	5,190	5,315	5,275
3) Nova Scotia	69,675	85,215	85,880	80,200	68,430	52,415	43,085	41,515	39,855	41,550	40,275
4) New Brunswick	57,800	71,490	73,810	69,770	56,555	40,715	33,215	31,675	31,290	32,660	29,985
5) Quebec	480,515	633,645	671,370	621,295	549,410	478,425	378,865	361,775	357,795	338,835	282,870
6) Ontario	637,260	783,515	787,720	713,365	674,135	567,345	478,150	468,520	474,150	469,815	381,130
7) Manitoba	85,410	100,195	101,185	96,335	85,480	66,945	54,815	52,630	53,460	56,465	51,035
8) Saskatchewan	79,170	99,005	102,260	95,760	68,855	53,020	47,310	48,335	50,700	52,115	49,720
9) Alberta	151,620	180,760	182,125	160,890	142,265	118,730	99,935	98,225	94,930	88,050	74,520
10) British Columbia	175,445	212,230	222,300	201,125	185,150	160,125	132,950	127,170	128,610	129,100	114,205
11) Territories	7,590	7,680	6,040	4,430	5,275	5,065	3,920	3,155	2,655	2,185	1,675
TOTAL (1-10)	1,808,560	2,246,320	2,304,700	2,109,915	1,884,130	1,579,050	1,301,500	1,260,720	1,259,875	1,236,850	1,050,865
TOTAL (1-11)	1,816,150	2,254,000	2,310,740	2,114,345	1,889,405	1,584,115	1,305,420	1,263,875	1,262,530	1,239,035	1,052,540

Table A3.8 (cont'd.)

Province	55-59	60-64	65-69	70-74	75-79	80-84	85-89	90-94	95+	Total
Prince Edward Island	19,715	15,095	11,240	8,755	6,185	3,580	1,735	445	135	522,105
Nova Scotia	5,245	4,410	3,670	3,150	2,640	1,590	900	315	90	111,645
New Brunswick	37,555	30,850	24,140	18,610	14,280	8,775	4,700	1,550	400	788,955
Quebec	27,785	23,105	18,370	14,285	10,775	6,620	3,360	1,040	255	634,560
Ontario	252,325	207,615	160,520	112,790	73,560	41,645	18,125	5,070	1,305	6,027,755
Manitoba	343,555	280,045	227,770	171,465	120,960	74,375	35,920	11,190	2,730	7,703,115
Saskatchewan	48,830	39,890	32,370	23,955	18,455	12,160	6,380	1,820	420	988,235
Alberta	46,680	38,520	31,085	23,005	18,305	13,135	6,770	2,065	440	926,255
British Columbia	65,155	51,920	42,000	30,120	21,550	14,810	7,515	2,275	475	1,627,870
Territories	106,605	84,615	68,240	50,920	38,595	27,360	14,545	4,385	960	2,184,635
	1,290	955	550	325	200	110	50	15	20	53,185
TOTAL (1-10)	953,450	776,065	619,405	457,055	325,305	204,050	99,950	30,155	7,210	21,515,130
TOTAL (1-11)	954,740	777,020	619,950	457,380	325,505	204,160	100,000	30,170	7,230	21,568,315

Source: Census Division, Statistics Canada

Table A3.9

Relative Population Errors of 1972 Survey of Consumer Finances*
(Percent)

Age Group

Province	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54
1) Newfoundland	2.1	3.4	6.8	-4.5	-10.6	-1.3	-1.6	6.8	-5.5	-1.2	13.1
2) Prince Edward Island	2.3	2.4	-7.2	-11.2	-6.9	29.5	-9.2	-13.4	-1.9	8.0	20.2
3) Nova Scotia	8.2	5.5	4.0	-3.5	-7.6	1.3	6.1	4.2	-5.0	-9.4	2.4
4) New Brunswick	-0.7	1.6	-2.0	-5.9	-11.4	5.9	12.1	0.5	0.9	-5.9	-5.3
5) Quebec	-6.4	0.8	4.2	-0.5	-2.4	-6.4	5.0	6.6	3.7	-1.8	2.5
6) Ontario	4.5	-5.4	-2.2	-1.5	-1.8	6.8	3.5	-5.6	3.4	2.2	0.4
7) Manitoba	-8.8	-3.0	4.0	-3.1	-6.0	-16.1	-9.0	3.0	2.5	0.5	16.1
8) Saskatchewan	-9.6	-21.3	-16.6	-7.2	-8.5	-6.2	-13.1	-9.1	3.6	1.5	-2.0
9) Alberta	11.0	0.9	3.3	-1.6	-7.4	0.1	-1.3	-10.2	9.8	-2.2	-8.7
10) British Columbia	11.1	-0.2	1.9	-2.0	-1.6	7.3	10.1	7.9	-6.1	-12.3	-8.2
TOTAL	-0.4	-2.4	0.6	-1.7	-3.5	0.7	3.3	-0.2	2.5	-1.5	0.3

Relative to the 1971 Census

Source: Tables A3.6 and A3.8

Table A3.9 (cont'd)

(Percent)

Age Group

Province	55-59	60-64	65-69	70-74	75-79	80-84	85-89	90-94	95+	Total
Newfoundland	-12.4	-1.4	-3.8	12.8	22.1	3.6	6.6	-39.3	-100.0	0.4
Prince Edward Island	-19.5	-16.6	-12.0	-15.2	11.7	45.3	-51.1	-1.6	55.0	-2.1
Nova Scotia	7.4	3.9	-1.3	-8.4	-6.0	-3.7	-6.8	-15.5	87.5	0.8
New Brunswick	1.8	-1.5	-1.4	-0.7	-7.3	-18.3	-7.7	-40.4	-29.4	-1.7
Quebec	-9.7	-7.2	6.5	-6.3	5.3	-18.9	-27.7	-9.7	-65.5	-0.6
Ontario	-5.0	-5.2	6.8	0.5	-10.5	-13.5	-39.8	33.2	-62.3	-0.7
Manitoba	-5.1	-7.5	2.0	4.8	-10.6	-4.1	18.8	-12.6	40.5	-2.4
Saskatchewan	-0.0	1.2	5.8	1.2	-19.5	-6.4	-25.7	-31.7	-40.9	-8.1
Alberta	-8.6	3.6	20.4	19.0	9.2	-14.5	-21.9	-51.6	38.9	-1.6
British Columbia	-17.0	-1.8	12.1	8.3	-4.2	-14.4	-26.6	-22.2	9.4	0.0
TOTAL	-7.1	-4.6	7.1	0.9	-4.3	-12.8	-26.3	-26.8	-29.1	-1.0

Table A3.10

Relative Errors of 1971 Base Year Model Population*
(Percent)

Province	Age Group										
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54
1) Newfoundland	1.8	1.9	7.1	-4.2	-9.2	-2.2	-4.8	8.0	-9.0	-1.1	14.0
2) Prince Edward Island	2.0	-1.8	-9.6	-16.5	-8.1	32.1	-14.3	-9.7	-0.8	8.2	16.6
3) Nova Scotia	9.4	6.1	4.4	-3.2	-9.0	2.0	7.7	3.7	-5.2	-10.1	1.1
4) New Brunswick	0.0	2.0	-1.9	-5.8	-10.9	5.7	12.1	0.7	1.6	-6.0	-6.0
5) Quebec	-6.4	0.7	4.3	-0.5	-2.3	-6.2	5.0	6.5	3.9	-1.8	2.7
6) Ontario	4.5	-5.6	-2.3	-1.5	-1.8	6.8	3.4	-5.8	3.4	2.1	0.4
7) Manitoba	-8.8	-3.3	-3.3	-2.8	-6.0	-16.5	-9.3	2.6	1.9	0.4	16.6
8) Saskatchewan	-9.2	-21.0	-16.6	-7.4	-7.8	-7.0	-13.2	-8.9	3.6	1.0	-1.2
9) Alberta	-10.9	-1.2	3.5	1.8	-7.5	0.1	-1.5	-10.3	9.4	-2.8	-8.6
10) British Columbia	11.1	-0.2	2.2	-2.0	-1.6	7.1	10.3	7.9	-5.9	-12.2	-8.6
TOTAL	-0.3	-2.6	0.6	-1.7	-3.5	0.6	3.2	-0.3	2.4	-1.6	0.3

Relative to the 1971 Census

Source: Tables A3.7 and A3.8

Table A3.10 (cont'd.)
(Percent)

Province	Age Group										Total
	55-59	60-64	65-69	70-74	75-79	80-84	85-89	90-94	95+		
1) Newfoundland	-9.2	-0.6	-2.6	10.2	26.1	2.0	9.5	-43.8	-100.0	0.5	
2) Prince Edward Island	-24.7	-13.8	-14.2	-15.9	17.4	54.1	-50.0	-4.8	66.7	-3.5	
3) Nova Scotia	6.8	3.2	-2.9	-8.7	-8.6	-2.0	-7.4	-16.1	75.0	0.8	
4) New Brunswick	-0.1	-2.4	-0.4	-3.4	-13.2	-21.5	-10.7	-42.3	-41.2	-1.8	
5) Quebec	-10.0	-7.1	6.7	-6.6	6.4	-18.4	-27.4	-9.3	-65.5	-0.5	
6) Ontario	-4.6	-5.2	6.8	0.7	-10.5	-13.8	-40.0	-33.9	-63.4	0.7	
7) Manitoba	-4.9	-7.9	2.1	6.2	-9.2	-4.6	19.1	-12.1	42.9	-2.5	
8) Saskatchewan	-0.9	1.8	4.2	1.5	-20.8	-7.9	-29.1	-32.2	-43.2	-8.2	
9) Alberta	-8.3	-3.3	20.5	18.9	9.0	-14.6	-20.2	-51.6	47.4	-1.7	
10) British Columbia	-16.7	-1.6	12.4	8.0	-4.9	-14.8	-26.8	-23.6	9.4	0.1	
TOTAL	-7.1	-4.5	7.1	0.8	-4.3	-12.9	-26.5	-27.4	-30.0	-1.0	

APPENDIX A.4

SURVEY OF CONSUMER FINANCE
WEIGHTED WORK FILE MAGNETIC TAPE LAYOUT

APPENDIX A.5

INITIAL YEAR TAPE RECORD LAYOUT

Consumer and Income Expenditures

Stage 6 - Work File and Summary Files Creation

IDENTIFICATION IDENTITE Pol160BCE·USERWORK, VOLSER - 039415

MEDIUM: SUPPORT: ☒ Tape Bande 9 Track 1600 BPI Densité de bits ☐ Card Carte ☐ Disk Disque ☐ Other Autre
LABEL: INDICATIF: ☒ Standard Normalisé ☒ 360 ☐ DOS ☐ Other Autre ☐ Non-Standard Non-normalisé ☐ 705 ☒ OS ☐ None Aucun

CONTENT: CONTENU: Individual Weighted Records

Total number - 136,649

Omitting records whose section number equals 102
gives 101,263 records

VOLUME: ☒ Tape 1 Reel(s) 136,649 Data RCDS Fiches de données ☐ Card Carte Cards Cartes ☐ Disk Disque Cyl., Cylindre Tracks Pistes ☐ Other Autre

USAGE From Consumer and Income Expenditure record layout number 6.1B
dated March 1971

RETENTION PERM DAYS OR STEP NO. JOURS OU LTAPE N° FORMAT 320-3520 (BLOCKING FACTOR COEFFICIENT DE GROUPAGE 11)

SEQUENCE MAJOR TO MINOR - SEQUENCE DU MAJEUR AU MINEUR ☐ Summary Résumé ☐ Detail Détail ☐ Mixed Base mixte

1.	6.
2.	7.
3.	8.
4.	9.
5.	10.

TH/CT 140 17

DISPOSITION DE FICHE
CONSEIL DU TRÉSOR

JOB NAME NOM DU TRAVAIL

140 17

DATA SET NAME INDICATED IN ENSEMBLE DE DONNÉES																	JOB NAME			NOM DU TRAVAIL		
P	0	1	6	0	B	C	E	.	U	S	E	R	W	O	R	K						
Field Zone	Size Format			Position			Type Caractère		Title - Titre													
									5 to 8 - Same as Field 32													
									9 - Did Nothing Else													
34		2		90-91			AN		Last Week Hours Worked (Blk. or 01-99)													
35		1		92			AN		Last Week Looked For Full or Part Time													
									Work													
									Blk - Not Applicable													
									7 - Full Time													
									9 - Part Time													
36		3		93-95			AN		Last Week Industry (70)													
37		3		96-98			AN		Last Week Industry (60)													
38		1		99			AN		Last Week Occupation - A													
									Blk - Not Applicable													
									1 - Managerial													
									2 - Professional													
									3 - Clerical													
									5 - Sales													
									6 - Service													
									8 - Transportation													
									9 - Communication													
39		1		100			AN		Last Week Occupation - B													
									Blk - Not Applicable													
									1 - Farmers and Farm Workers													
									3 - Loggers													
									4 - Fisherman, Trappers and Hunters													

DATA FILE NAME										INDICATEUR D'ENSEMBLE DE DONNÉES										JOB NAME										NOM DU TRAVAIL									
P	0	1	6	0	B	C	E	.	U	S	E	R	W	O	R	K																							
Field Zone	Size Format		Position			Type Caractère		Title - Titre																															
46	1		107			N		Last Months Major Activity (1-8 Same as Field 32)																															
47	1		108			N		Last Month Secondary Activity (1-3 and 5-9 Same as Field 33)																															
48	1		109			AN		Interviewed 6 - No 8 - Yes																															
49	1		110			AN		Months Looking For Work (Blk or 0-5)																															
50	1		111			AN		Farm Housewife (Blk, 0 or 4)																															
51	1		112			N		Education 0 - Under grade 5 1 - Grade 5-8 2 - High School not completed 3 - High School completed, vocational program 4 - High School completed academic program 5 - Non-university some 6 - Non-university completed 7 - University some 8 - University completed - diploma or certificate 9 - University completed - degree																															

DATA SET NAME: INDICATIF D'ENSEMBLE DE DONNÉESJOB NAMENOM DU TRAVAIL

DATA SET NAME										INDICATEUR D'ENSEMBLE DE DONNÉES										JOB NAME			NOM DU TRAVAIL		
P	0	1	6	0	B	C	E	.	U	S	E	R	W	O	R	K									
File Zone	Size Format			Position			Type Caractère		Title - Titre																
79	4			200-203			PD		Unemployment insurance benefits (+)																
80	4			204-207			PD		Canada Manpower Training Allowances (+)																
81	4			208-211			PD		Social Assistance (+)																
82	4			212-215			PD		Other Income From Government Sources (+)																
83	4			216-219			PD		Retirement Pension, Superannuation and (+)																
									Annuities (+)																
84	4			220-223			PD		Other Money Income **																
85	4			224-227			PD		Other Money Income **																
86	4			228-231			PD		Other Money Income **																
87	4			232-235			PD		Other Money Income (+)																
88	4			236-839			PD		Spare Field (Zeros) ***																
89	4			240-243			PD		Spare Field (Zeros) ***																
90	4			244-247			PD		Spare Field (Zeros) ***																
91	4			248-251			PD		Total Reported Income (+-)																
									(Sum of Non-Spare Income Fields Above)																
92	4			252-255			PD/AN		Total Income Tax Last Year																
									Zeros - N/A																
									Value - Actual Amount Reported																
									XXXX - Refused to Give Information																
93	4			256-259			PD/AN		Spare Field (Zeros) ***																
94	4			260-263			PD/AN		Spare Field (Zeros) ***																
95	4			264-267			PD/AN		Spare Field (Zeros) ***																

DATA SET NAME - INDICATEUR D'ENSEMBLE DE DONNÉES

JOB NAME NOM DU TRAVAIL

P O 1 6 0 B C E . U S E R W O R K

Field Zone	Size Format	Position	Type Caractère	Title - Titre
96	4	268-271	PD/AN	Spare Field (Zeros) ***
97	8	272-279	AN	Blank
98	7	280-286	N	Individual Weight Factor (3 Int. 4 Dec.)
99	7	287-293	N	Census Family Weight Factor (3 Int. 4 Dec.)
100	7	294-300	N	Economic Family Weight Factor (3 Int. 4 Dec.)
101	3	301-303	N	Individual Weight Category
102	3	304-306	N	Census Family Weight
103	3	307-309	N	Economic Family Weight Category
104	2	310-311	N	Province or Region Control Code
105	2	312-313	N	Individual Labour Force Status
				1 - Paid Worker, employed
				2 - Paid Worker, unemployed looking
				3 - Own account nonfarm employed
				4 - Own account nonfarm unemployed
				5 - Own account farm employed
				6 - Own account farm unemployed
				7 - Unpaid family worker
				8 - Not in labour force, school
				9 - Not in labour force, other reasons
				10 - Member of armed forces
106	2	314-315	N	Census Family Labour Force Status
107	2	316-317	N	Economic Family Labour Force Status
108	1	318	N	Individual Flag
109	1	319	N	Census Family Flag
110	1	320	N	Economic Family Flag

Nov.29/73

PAGE OF
DE

Division

PLANNING BRANCH

Section

EFFECTIVENESS EVALUATION

Project - Projet

POLSIM: LOCATION DBS

IDENTIFICATION
IDENTITE

DSN=Base 71.EQ.Weight

MEDIUM:
SUPPORT:

☒ Tape 9 Track 1600 BPI
Bande Piste Densite de bits

☐ Card
Carte

☐ Disk
Disque

☐ Other
Autre

LABEL:
INDICATIF:

☒ Standard Normalisé ☒ 360 ☐ DOS

☐ Other
Autre

☐ Non-Standard Non-normalisé ☐ 705 ☐ OS

VOL-SER-(015663,049606)

☐ None
Aucun

CONTENT:
CONTENU:

Records selected from IND71.EQUAL.WEIGHT tape VOL=SER=(047612,020377)

Similar to that tape except the 27 fields are reduced to 23; still
in A4 format.

VOLUME:

☒ Tape 2 Reel(s) 425864 Data RCDS
Bande Bobine(s) Fiches de données

☐ Card
Carte Cards Cartes

☐ Disk Cyl. Tracks
Disque Cylindre Pistes

☐ Other
Autre

USAGE

RETENTION

DAYS OR STEP NO.

FORMAT 92-3680

(BLOCKING FACTOR
COEFFICIENT DE 40
GROUPAGE)

CONSERVATION

JOURS OU ÉTAPE N°

☐ Summary
Résumé

☐ Detail
Détail

☐ Mixed
Base mixte

SEQUENCE MAJOR TO MINOR -
SEQUENCE DU MAJEUR AU MINEUR

1.	6.
2.	7.
3.	8.
4.	9.
5.	10.

DIVISION
PLANNING BRANCH

Section

EFFECTIVENESS EVALUATION

Project - Projet

POLSIM: BASE 67.EQ.WEIGHT

MEDIUM:
SUPPORT:☐ Tape 9 Track 1600 BPI
Bande Piste Densité de bits☐ Card
Carte☐ Disk
Disque☐ Other VOL=SER= (045247,052606)
AutreLABEL:
INDICATIF: ☒ Standard
Normalisé☒ 360☐ DOS☐ Other
Autre☐ Non-Standard
Non-normalisé☐ 705☐ OS☐ None
AucunCONTENT: RECORDS SELECTED FROM IND. 67-EQUAL-WEIGHT Tape VOL=SER= (011842,011894)
CONTENU:

Similar to that tape except the 27 fields are reduced to 23;

Still in A4 format.

VOLUME:

☒ Tape 2 Reel(s) 397960 Data RCDS
Bande Bobine(s) Fiches de données☐ Card
Carte Cards
Cartes☐ Disk
Disque Cyl., Tracks
Cylindre Pistes☐ Other
Autre

USAGE

RETENTION DAYS OR STEP NO. FORMAT 92-3680
CONSERVATION JOURS OU ÉTAPE N°(BLOCKING FACTOR
COEFFICIENT DE 40
GROUPAGE)SEQUENCE MAJOR TO MINOR -
SEQUENCE DU MAJEUR AU MINEUR☐ Summary
Résumé☐ Detail
Détail☐ Mixed
Base mixte

1.

6.

2.

7.

3.

8.

4.

9.

5.

10.

DATA SET NAME -- INDICATEUR D'ENSEMBLE DE DONNÉES

JOB NAME -- NOM DU TRAVAIL

Field Zone	Size Longueur	Position	Type Caractère	Title Titre
8	4	29-32	AN	SEX
				1 - Male
				2 - Female
9	4	33-36	AN	MAJOR SOURCE OF INCOME
				1 - Interest, dividends and/or other investment income.
				2 - Farm self-employment
				3 - Nonfarm self-employment
				4 - Wages and/or military pay
				5 - No income.
10	4	37-40	AN	WEEKS IN SCHOOL
11	4	41-44	AN	WEEKS EMPLOYED
12	4	45-48	AN	WEEKS UNEMPLOYED
13	4	49-52	AN	WEEKS IN NON-LABOUR FORCE
14	4	53-56	AN	EDUCATION:
				1 - Gr.9
				2 - Gr.10
				3 - Gr.11
				4 - Gr.12
				5 - Gr.13
				6 - CAAT 1
				7 - CAAT 2
				8 - CAAT 3
				9 - UNIV 1
				10 - UNIV 2
				11 - UNIV 3
				12 - UNIV 4
				13 - UNIV 5
				14 - UNIV 6
				15 - UNIV 7
				16 - UNIV 8
				17 - UNIV 9
				18 - UNIV 10
				19 - Less than Grade-9

DATA SET NAME - INDICATEUR D'ENSEMBLE DE DONNÉES

JOB NAME

FORM DU 16-AV-41

Line No.	Size Format	Position	Type Caractère	Title - Titre
15	4	57-60	AN	April activity status: 1 - Grade 9 13 - UNIV 5 2 - Grade 10 14 - UNIV 6 3 - Grade 11 15 - UNIV 7 4 - Grade 12 16 - UNIV 8 5 - Grade 13 17 - UNIV 9 6 - CAAT 1 18 - UNIV 10 7 - CAAT 2 19 - Unused 8 - CAAT 3 20 - Emp. 9 - UNIV 1 21 - Unemp. 10 - UNIV 2 22 - Non-Labour Force 11 - UNIV 3 23 - Age less than 14 12 - UNIV 4
16	4	61-64	AN	Weight (equal weight families = 50)
17	4	65-68	AN	Employment Category (Type) 14 - Class "A" person who will not receive a private pension 15 - Class "A" person who will receive a private pension. 24 - Class "B" person who on retirement will not receive a private pension.

INACT 340 17

APPENDIX B
THE IMMIGRATION BLOCK

APPENDIX B.1

DERIVATION OF FAMILY SIZE PROBABILITIES

DERIVATION OF FAMILY SIZE PROBABILITIES

A listing of all of the data used by the Immigration Block is presented in the computer print-out attached below. It lists in tabular form all of the numbers as they are actually used. The headings on the tables should be self-evident.

It will be recalled (cf. section 3.4.2) that the array that specifies the probabilities of having children has to be determined by solving simultaneous equations containing the unknown probabilities. There are 4 unknown probabilities (for a given province and age group), and only two equations. Therefore 2 of the probabilities must be determined by inspection, and the other 2 by solving the equations. It should be recalled that the purpose of this exercise is not to determine the actual probabilities of having a given number of children. There is not enough data to calculate each of these individual probabilities. What we are forced to do is to calculate a set of probabilities such that for a given population of mothers, a given population of children can be generated. We therefore examine these two populations and set two of the probabilities a priori (p_0 and p_2). The value of p_2 relative to p_0 will depend on the number of children relative to the number of mothers. The higher this ratio, the higher will be p_2 relative to p_0 . Having set these two values we can then calculate p_1 and p_3 so as to generate exactly the right number of children. The details of these calculations now follow.

B.1.1 Women in 41-50 age group (Children in 15-19 age group)

Let Y = No. of wives
 X = No. of children
 p_i = prob. of a mother having i children, $i=0,\dots,3$

Then $p_0 + p_1 + p_2 + p_3 = 1$
 $p_1 + 2p_2 + 3p_3 = X/Y$

Let $p_2 = .5$

$p_0 = .1$

Then $.1 + p_1 + .5 + p_3 = 1 \Rightarrow p_1 + p_3 = .4$

$p_1 + 1 + 3p_3 = X/Y \Rightarrow p_1 + 3p_3 = X/Y - 1$

and $p_3 = X/2Y - .7$ for all provinces but Manitoba

$p_1 = .4 - p_3$

For Manitoba, let

$p_2 = .3$ and $p_0 = .1$

Then $p_1 + p_3 = .6$

$p_1 + 3p_3 = X/Y - 1$

$p_3 = X/2Y - .8$ for Manitoba

$p_1 = .6 - p_3$

Prov.	X	2Y	X/2Y	X/2Y - .7 (p3)	.4 - p3 (p1)
PEI	7	10	.7	0	.4
NS	62	66	.9393	.2393	.1607
NB	44	42	1.0476	.3476	.0524
PQ	599	680	.8808	.1808	.2192
ONT	2403	2392	1.0045	.3045	.0955
MAN	248	200	1.24	$p_3 = .44$	$p_1 = .16$
SASK	65	78	.8333	.1333	.2667
ALTA	346	388	.8917	.1917	.2083
BC	881	862	1.022	.322	.0780

Cumulative Distribution

PROV (I)	CHILD (I,3,1)	CHILD (I,3,2)	CHILD (I,3,3)	CHILD (I,3,4)
NFLD (1)	.1	.4858	.9858	1.0
PEI (2)	.1	.5	1.0	1.0
NS (3)	.1	.2607	.7607	1.0
NB (4)	.1	.1524	.6524	1.0
PQ (5)	.1	.3192	.8192	1.0
ONT (6)	.1	.1955	.6955	1.0
MAN (7)	.1	.26	.56	1.0
SASK (8)	.1	.3667	.8667	1.0
ALTA (9)	.1	.3083	.8083	1.0
BC (10)	.1	.178	.678	1.0

B.1.2 Women in 31-40 group (Children in 10-14 group)

$$p_0 + p_1 + p_2 + p_3 = 1$$

$$p_1 + 2p_2 + 3p_3 = X/Y$$

Let $p_1 = .7$

$$p_3 = 0$$

Then $p_2 = X/2Y - .35$ for all provinces but Manitoba

$$p_0 = .3 - p_2$$

For Manitoba, let

$$p_1 = .5$$

$$p_3 = 0$$

$$p_2 = X/2Y - .25$$

$$p_0 = .5 - p_2$$

Prov.	X	2Y	X/2Y	$\frac{X}{2Y} - .35$ (p_2)	$.3 - p_2$ (p_o)
NFLD	55	122	.4508	.1008	.1992
PEI	11	16	.6875	(.30) *	(0) *
NS	97	170	.5705	.2205	.0795
NB	45	112	.4017	.0517	.2483
QUE	916	1764	.5192	.1692	.1308
ONT	3549	6070	.5846	.2346	.0654
MAN	353	484		$p_2 = .4772$	$p_o = .0228$
SASK	98	160	.6125	.2625	.0375
ALTA	572	996	.5742	.2242	.0758
BC	1177	1886	.6240	.2740	.0260

* Approximation

Cumulative Distribution

PROV (I)	CHILD (I,2,1)	CHILD (I,2,2)	CHILD (I,2,3)	CHILD (I,2,4)
NFLD (1)	.1992	.892	1.0	1.0
PEI (2)	0	.7	1.0	1.0
NS (3)	.0795	.7795	1.0	1.0
NB (4)	.2483	.9483	1.0	1.0
PQ (5)	.1308	.8308	1.0	1.0
ONT (6)	.0654	.7654	1.0	1.0
MAN (7)	.0228	.5228	1.0	1.0
SASK (8)	.0375	.7375	1.0	1.0
ALTA (9)	.0758	.7758	1.0	1.0
BC (10)	.0260	.7260	1.0	1.0

B.1.3 Women in 20-30 age group (Children in 0-9 age group)

$$p_0 + p_1 + p_2 + p_3 = 1$$

$$p_1 + 2p_2 + 3p_3 = X/Y$$

Let $p_0 = .05$

$$p_3 = .2$$

Then $p_2 = X/Y - 1.35$ for all provinces but PEI

$$p_2 = .75 - p_2$$

In PEI, let

$$p_0 = 0$$

$$p_1 = 0$$

$$p_3 = X/Y - 2.0 = .9$$

$$p_2 = 1.0 - p_3 = .1$$

Prov.	X	Y	X/Y	X/Y - 1.35	.75 - p ₂
NFLD	162	95	1.7052	.3552	.3948
PEI	29	10	2.9	p ₂ = .1	p ₃ = .9
NS	290	200	1.45	.1	.65
NB	173	121	1.4297	.0797	.6703
PQ	2755	1906	1.4454	.0954	.6546
ONT	10350	5639	1.8354	.4854	.2646
MAN	929	523	1.7762	.4262	.3238
SASK	250	138	1.8115	.4615	.2885
ALTA	1555	812	1.915	.565	.185
BC	3179	1974	1.6104	.2604	.4896

Cumulative Distribution

PROV (I)	CHILD (I,1,1)	CHILD (I,1,2)	CHILD (I,1,3)	CHILD (I,1,4)
NFLD (1)	.05	.4448	.8	1.0
PEI (2)	0	0	.1	1.0
NS (3)	.05	.1	.8	1.0
NB (4)	.05	.7203	.8	1.0
PQ (5)	.05	.7046	.8	1.0
ONT (6)	.05	.3156	.8	1.0
MAN (7)	.05	.3738	.8	1.0
SASK (8)	.05	.3385	.8	1.0
ALTA (9)	.05	.235	.8	1.0
BC (10)	.05	.5396	.8	1.0

APPENDIX E.2

LISTING OF THE IMMIGRATION BLOCK DATA

DISTRIBUTION OF ADULT INVESTMENTS, 1971

LABITAL STATUS = SINGLE

AGE = 15-19

AGE GROUP

AGE	NEEF	E.F.I.	N.S.	R.D.	P.O.	UNT.	MAN.	SASK	ALTA	H.C.
15-19	* 0.0000	0.0	0.0001	0.0000	0.0026	0.0082	0.0006	0.0001	0.0005	0.0010
20-24	* 0.0000	0.0	0.0000	0.0000	0.0026	0.0082	0.0006	0.0001	0.0005	0.0010
25-29	* 0.0000	0.0	0.0002	0.0001	0.0031	0.0088	0.0007	0.0001	0.0009	0.0019
30-34	* 0.0000	0.0000	0.0001	0.0000	0.0010	0.0000	0.0000	0.0001	0.0000	0.0000
35-39	* 0.0001	0.0000	0.0003	0.0002	0.0029	0.0086	0.0006	0.0002	0.0008	0.0022
40-44	* 0.0000	0.0001	0.0004	0.0002	0.0022	0.0086	0.0003	0.0002	0.0007	0.0021

DISTRIBUTION OF ADULT IMMIGRANTS, 1971

LADITAL STATUS = SINGLE

1971-1972

PERCENTAGE

	AFR	EUR	AS	AM	OC	NT	AN	SAS	ATA	PC
15-19	0.0000	0.0	0.0001	0.0000	0.0026	0.0082	0.0006	0.0001	0.0005	0.0010
20-29	0.0005	0.0000	0.0009	0.0004	0.0175	0.0533	0.0047	0.0008	0.0158	0.0123
30-39	0.0000	0.0	0.0002	0.0001	0.0071	0.0000	0.0007	0.0001	0.0000	0.0000
40-49	0.0000	0.0000	0.0001	0.0000	0.0010	0.0000	0.0003	0.0001	0.0000	0.0000
50-59	0.0001	0.0000	0.0003	0.0002	0.0029	0.0006	0.0006	0.0002	0.0008	0.0022
60+	0.0000	0.0001	0.0004	0.0002	0.0022	0.0066	0.0003	0.0002	0.0007	0.0021

CENSUS OF THE POPULATION, 1971

1971 CENSUS OF THE POPULATION

SEX = FEMALE

PROVINCE = ONTARIO

AGE	NEEF	P.F.I.	N.S.	N.R.	E.C.	ONT.	MAN.	SASK.	ALTA.	P.C.
15-19	0.0000	0.0000	0.0000	0.0001	0.0015	0.0069	0.0004	0.0001	0.0005	0.0015
20-24	0.0008	0.0001	0.0016	0.0010	0.0156	0.0463	0.0043	0.0011	0.0091	0.0152
25-29	0.0005	0.0001	0.0007	0.0005	0.0072	0.0249	0.0020	0.0007	0.0041	0.0077
30-34	0.0002	0.0000	0.0003	0.0002	0.0028	0.0098	0.0008	0.0002	0.0016	0.0035
35-39	0.0001	0.0001	0.0005	0.0002	0.0026	0.0086	0.0005	0.0001	0.0010	0.0031
40+	0.0000	0.0000	0.0002	0.0001	0.0005	0.0015	0.0001	0.0000	0.0003	0.0007

...ABILITY OF A WOMAN HAVING A FIXED NUMBER OF CHILDREN

LETTERS; ACT; GOVERNMENT; 20-30

ANALYST

[illegible]

PPPPPP	PPPPPP	LI	AAAAA	PPPPPP	PPPPPP	AAAAA	YY	YY
PPPPPP	PPPPPP	II	AAAPAA	PPPPPP	PPPPPP	AAAAAAA	YY	YY
PP	PP	II	AA	PP	PP	AA	YY	YY
PP	PP	LI	AAAAAAA	PPPPPP	PPPPPP	AAAPAA	YY	YY
PP	PP	II	AAAPAA	PPPPPP	PPPPPP	AAAAAAA	YY	YY
PP	PP	II	AA	PP	PP	AA	YY	YY
PPPPPP	PPPPPP	IIIIII	AA	PP	PP	AA	YY	YY
PPPPPP	PPPPPP	IIIIII	AA	PP	PP	AA	YY	YY

(1) 1911, 1912, 1913, 1914, 1915, 1916, 1917, 1918, 1919, 1920, 1921, 1922, 1923, 1924, 1925, 1926, 1927, 1928, 1929, 1930, 1931, 1932, 1933, 1934, 1935, 1936, 1937, 1938, 1939, 1940, 1941, 1942, 1943, 1944, 1945, 1946, 1947, 1948, 1949, 1950, 1951, 1952, 1953, 1954, 1955, 1956, 1957, 1958, 1959, 1960, 1961, 1962, 1963, 1964, 1965, 1966, 1967, 1968, 1969, 1970, 1971, 1972, 1973, 1974, 1975, 1976, 1977, 1978, 1979, 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 25

11

UNITED STATES

[illegible][illegible]

CUMULATIVE INCOME DISTRIBUTION OF NEW IMMIGRANTS

SEX = FEMALE

ARITAL STATUS = SINGLE

[illegible]

CCCCC	CCCCC	CCCCC	CCCCC	AAAAA	PPPPP	PPPPP	PPPPP	AAAAA	YY	YY
CCCCC	CCCCC	CCCCC	CCCCC	AAAAAAA	PPPPPP	PPPPPP	PPPPPP	AAAAAAA	YY	YY
CCCCC	CCCCC	CCCCC	CCCCC	AAAAA	PPPP	PP	PP	AAAAA	YY	YY
CCCCC	CCCCC	CCCCC	CCCCC	AAAAAAA	PPPPPP	PPPPPP	PPPPPP	AAAAAAA	YY	YY
CCCCC	CCCCC	CCCCC	CCCCC	AAAAAAA	PPPPPP	PPPPPP	PPPPPP	AAAAAAA	YY	YY
CCCCC	CCCCC	CCCCC	CCCCC	AAAAA	PPPP	PP	PP	AAAAA	YY	YY
CCCCC	CCCCC	CCCCC	CCCCC	AAAAA	PPPP	PP	PP	AAAAA	YY	YY
CCCCC	CCCCC	CCCCC	CCCCC	AAAAA	PPPP	PP	PP	AAAAA	YY	YY

RELATIVE EDUCATION DISTRIBUTION OF IMMIGRANTS

SEX = MALE

EDUCATION CLASS ----->

EDUCATION CLASS	1960	1970	1980	1990	2000	2010	2020	2030	2040	2050	2060	2070	2080	2090	2100	2110	2120	2130	2140	2150	2160	2170	2180	2190	2200	2210	2220	2230	2240	2250	2260	2270	2280	2290	2300	2310	2320	2330	2340	2350	2360	2370	2380	2390	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500	2510	2520	2530	2540	2550	2560	2570	2580	2590	2600	2610	2620	2630	2640	2650	2660	2670	2680	2690	2700	2710	2720	2730	2740	2750	2760	2770	2780	2790	2800	2810	2820	2830	2840	2850	2860	2870	2880	2890	2900	2910	2920	2930	2940	2950	2960	2970	2980	2990	3000	3010	3020	3030	3040	3050	3060	3070	3080	3090	3100	3110	3120	3130	3140	3150	3160	3170	3180	3190	3200	3210	3220	3230	3240	3250	3260	3270	3280	3290	3300	3310	3320	3330	3340	3350	3360	3370	3380	3390	3400	3410	3420	3430	3440	3450	3460	3470	3480	3490	3500	3510	3520	3530	3540	3550	3560	3570	3580	3590	3600	3610	3620	3630	3640	3650	3660	3670	3680	3690	3700	3710	3720	3730	3740	3750	3760	3770	3780	3790	3800	3810	3820	3830	3840	3850	3860	3870	3880	3890	3900	3910	3920	3930	3940	3950	3960	3970	3980	3990	4000	4010	4020	4030	4040	4050	4060	4070	4080	4090	4100	4110	4120	4130	4140	4150	4160	4170	4180	4190	4200	4210	4220	4230	4240	4250	4260	4270	4280	4290	4300	4310	4320	4330	4340	4350	4360	4370	4380	4390	4400	4410	4420	4430	4440	4450	4460	4470	4480	4490	4500	4510	4520	4530	4540	4550	4560	4570	4580	4590	4600	4610	4620	4630	4640	4650	4660	4670	4680	4690	4700	4710	4720	4730	4740	4750	4760	4770	4780	4790	4800	4810	4820	4830	4840	4850	4860	4870	4880	4890	4900	4910	4920	4930	4940	4950	4960	4970	4980	4990	5000	5010	5020	5030	5040	5050	5060	5070	5080	5090	5100	5110	5120	5130	5140	5150	5160	5170	5180	5190	5200	5210	5220	5230	5240	5250	5260	5270	5280	5290	5300	5310	5320	5330	5340	5350	5360	5370	5380	5390	5400	5410	5420	5430	5440	5450	5460	5470	5480	5490	5500	5510	5520	5530	5540	5550	5560	5570	5580	5590	5600	5610	5620	5630	5640	5650	5660	5670	5680	5690	5700	5710	5720	5730	5740	5750	5760	5770	5780	5790	5800	5810	5820	5830	5840	5850	5860	5870	5880	5890	5900	5910	5920	5930	5940	5950	5960	5970	5980	5990	6000	6010	6020	6030	6040	6050	6060	6070	6080	6090	6100	6110	6120	6130	6140	6150	6160	6170	6180	6190	6200	6210	6220	6230	6240	6250	6260	6270	6280	6290	6300	6310	6320	6330	6340	6350	6360	6370	6380	6390	6400	6410	6420	6430	6440	6450	6460	6470	6480	6490	6500	6510	6520	6530	6540	6550	6560	6570	6580	6590	6600	6610	6620	6630	6640	6650	6660	6670	6680	6690	6700	6710	6720	6730	6740	6750	6760	6770	6780	6790	6800	6810	6820	6830	6840	6850	6860	6870	6880	6890	6900	6910	6920	6930	6940	6950	6960	6970	6980	6990	7000	7010	7020	7030	7040	7050	7060	7070	7080	7090	7100	7110	7120	7130	7140	7150	7160	7170	7180	7190	7200	7210	7220	7230	7240	7250	7260	7270	7280	7290	7300	7310	7320	7330	7340	7350	7360	7370	7380	7390	7400	7410	7420	7430	7440	7450	7460	7470	7480	7490	7500	7510	7520	7530	7540	7550	7560	7570	7580	7590	7600	7610	7620	7630	7640	7650	7660	7670	7680	7690	7700	7710	7720	7730	7740	7750	7760	7770	7780	7790	7800	7810	7820	7830	7840	7850	7860	7870	7880	7890	7900	7910	7920	7930	7940	7950	7960	7970	7980	7990	8000	8010	8020	8030	8040	8050	8060	8070	8080	8090	8100	8110	8120	8130	8140	8150	8160	8170	8180	8190	8200	8210	8220	8230	8240	8250	8260	8270	8280	8290	8300	8310	8320	8330	8340	8350	8360	8370	8380	8390	8400	8410	8420	8430	8440	8450	8460	8470	8480	8490	8500	8510	8520	8530	8540	8550	8560	8570	8580	8590	8600	8610	8620	8630	8640	8650	8660	8670	8680	8690	8700	8710	8720	8730	8740	8750	8760	8770	8780	8790	8800	8810	8820	8830	8840	8850	8860	8870	8880	8890	8900	8910	8920	8930	8940	8950	8960	8970	8980	8990	9000	9010	9020	9030	9040	9050	9060	9070	9080	9090	9100	9110	9120	9130	9140	9150	9160	9170	9180	9190	9200	9210	9220	9230	9240	9250	9260	9270	9280	9290	9300	9310	9320	9330	9340	9350	9360	9370	9380	9390	9400	9410	9420	9430	9440	9450	9460	9470	9480	9490	9500	9510	9520	9530	9540	9550	9560	9570	9580	9590	9600	9610	9620	9630	9640	9650	9660	9670	9680	9690	9700	9710	9720	9730	9740	9750	9760	9770	9780	9790	9800	9810	9820	9830	9840	9850	9860	9870	9880	9890	9900	9910	9920	9930	9940	9950	9960	9970	9980	9990	10000	10010	10020	10030	10040	10050	10060	10070	10080	10090	10100	10110	10120	10130	10140	10150	10160	10170	10180	10190	10200	10210	10220	10230	10240	10250	10260	10270	10280	10290	10300	10310	10320	10330	10340	10350	10360	10370	10380	10390	10400	10410	10420	10430	10440	10450	10460	10470	10480	10490	10500	10510	10520	10530	10540	10550	10560	10570	10580	10590	10600	10610	10620	10630	10640	10650	10660	10670	10680	10690	10700	10710	10720	10730	10740	10750	10760	10770	10780	10790	10800	10810	10820	10830	10840	10850	10860	10870	10880	10890	10900	10910	10920	10930	10940	10950	10960	10970	10980	10990	11000	11010	11020	11030	11040	11050	11060	11070	11080	11090	11100	11110	11120	11130	11140	11150	11160	11170	11180	11190	11200	11210	11220	11230	11240	11250	11260	11270	11280	11290	11300	11310	11320	11330	11340	11350	11360	11370	11380	11390	11400	11410	11420	11430	11440	11450	11460	11470	11480	11490	11500	11510	11520	11530	11540	11550	11560	11570	11580	11590	11600	11610	11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CUMULATIVE EDUCATION DISTRIBUTION OF IMMIGRANTS

SEX = FEMALE

EDUCATION CLASS ---->

	COMPLET	STUDY	GROUP	SOME C	INT	DEC
15-19	* 0.5640	0.8840	0.9870	1.0000	1.0000	1.0000
20-30	* 0.2300	0.5020	0.7150	0.8750	1.0000	1.0000
31-40	* 0.2100	0.5600	0.7100	0.8500	1.0000	1.0000
41-50	* 0.4740	0.6320	0.6320	0.7900	1.0000	1.0000
51-65	* 0.5000	1.0000	1.0000	1.0000	1.0000	1.0000
65+	* 1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

APPENDIX B.3

VALIDATION TABLES FOR THE IMMIGRATION BLOCK

VALIDATION TABLES

The accompanying tables compare simulated distributions with actual distributions for level of education, number of children, income class, and actual numbers of immigrants. All of these distributions are stratified in the same way that the relevant data set is stratified. The actual values are presented first, with the corresponding simulated value given in brackets underneath.

TABLE B.1.1

MALE

AGE GROUP	EDUCATION LEVEL OF NEW IMMIGRANTS				
	COMPL ELEM	SOME H.S.	COMPL H.S.	SOME UNIV.	UNIV. DEGREE
15-19	.763* (.774)**	.921 (.871)	.971 (.968)	1.000 (1.000)	1.000 (1.000)
20-30	.374 (.429)	.602 (.645)	.714 (.727)	.813 (.813)	1.000 (1.000)
31-40	.372 (.367)	.572 (.538)	.665 (.623)	.727 (.688)	1.000 (1.000)
41-50	.394 (.397)	.562 (.588)	.646 (.647)	.712 (.706)	1.000 (1.000)
51-65	.400 (.405)	.563 (.596)	.688 (.681)	.701 (.681)	1.000 (1.000)
65+	.200 (.083)	.400 (.416)	.600 (.458)	.800 (.750)	1.000 (1.000)

* Actual Distribution

** Simulated Distribution

TABLE B.1.2

FEMALE

AGE GROUP	EDUCATION LEVEL OF NEW IMMIGRANTS				
	COMPL ELEM	SOME H.S.	COMPL H.S.	SOME UNIV.	UNIV. DEGREE
15-19	.564* (.645)**	.884 (.903)	.987 (1.000)	1.000 (1.000)	1.000 (1.000)
20-30	.230 (.184)	.502 (.483)	.715 (.705)	.875 (.876)	1.000 (1.000)
31-40	.310 (.282)	.560 (.487)	.710 (.718)	.850 (.872)	1.000 (1.000)
41-50	.474 (.400)	.632 (.800)	.632 (.800)	.790 (.867)	1.000 (1.000)
51-65	.500 (.421)	1.000 (1.000)	1.000 (1.000)	1.000 (1.000)	1.000 (1.000)
65+	1.000 (1.000)	1.000 (1.000)	1.000 (1.000)	1.000 (1.000)	1.000 (1.000)

TABLE B.2.1

NEWFOUNDLAND

AGE GROUP OF MOTHER	NUMBER OF CHILDREN			
	0	1	2	3
20-30	.05* (0)**	.4448 (.500)	.8 (1.000)	1.000 (1.000)
31-40	.1992 (0)	8.8992 (0)	1.000 (1.000)	1.000 (1.000)
41-50	.1 (0)	.4858 (0)	.9858 (0)	1.000 (0)

* Actual Distribution

** Simulated Distribution

TABLE B.2.2

PRINCE EDWARD ISLAND

AGE GROUP OF MOTHER	NUMBER OF CHILDREN			
	0	1	2	3
20-30	.0* (0)**	0 (0)	.100 (0)	1.000 (0)
31-40	0 (0)	.700 (0)	1.000 (0)	1.000 (0)
41-50	.100 (0)	.500 (0)	1.000 (0)	1.000 (0)

* Actual Distribution

** Simulated Distribution

TABLE B.2.3

NOVA SCOTIA

AGE GROUP OF MOTHER	NUMBER OF CHILDREN			
	0	1	2	3
20-30	.050* (0)**	.100 (1.000)	.800 (1.000)	1.000 (1.000)
31-40	.0795 (.500)	.7795 (1.000)	1.000 (1.000)	1.000 (1.000)
41-50	.100 (0)	.2607 (0)	.7607 (0)	1.000 (0)

* Actual Distribution

** Simulated Distribution

TABLE B.2.4

NEW BRUNSWICK

AGE GROUP OF MOTHER	NUMBER OF CHILDREN			
	0	1	2	3
20-30	.050* (0)**	.7203 (.750)	.800 (.750)	1.000 (1.000)
31-40	.2483 (0)	.9483 (1.000)	1.000 (1.000)	1.000 (1.000)
41-50	.100 (0)	.1524 (0)	.6524 (0)	1.000 (0)

* Actual Distribution

** Simulated Distribution

TABLE B.2.5

QUEBEC

AGE GROUP OF MOTHER	NUMBER OF CHILDREN			
	0	1	2	3
20-30	.050* (.026)**	.7046 (.615)	.800 (.718)	1.000 (1.000)
31-40	.1308 (0)	.8308 (.667)	1.000 (1.000)	1.000 (1.000)
41-50	.100 (.143)	.3192 (.286)	.8192 (.857)	1.000 (1.000)

* Actual Distribution

** Simulated Distribution

TABLE B.2.6

ONTARIO

AGE GROUP OF MOTHER	NUMBER OF CHILDREN			
	0	1	2	3
20-30	.050* (.044)**	.3156 (.272)	.800 (.754)	1.000 (1.000)
31-40	.0654 (.083)	.7654 (.633)	1.000 (1.000)	1.000 (1.000)
41-50	.100 (.125)	.1955 (.250)	.6955 (.708)	1.000 (1.000)

* Actual Distribution

** Simulated Distribution

TABLE B.2.7

MANITOBA

AGE GROUP OF MOTHER	NUMBER OF CHILDREN			
	0	1	2	3
20-30	.050* (0)**	.3738 (.500)	.800 (.800)	1.000 (1.000)
31-40	.0228 (0)	.5228 (.600)	1.000 (1.000)	1.000 (1.000)
41-50	.100 (0)	.210 (0)	.510 (0)	1.000 (1.000)

* Actual Distribution

** Simulated Distribution

TABLE B.2.8

SASKATCHEWAN

AGE GROUP OF MOTHER	NUMBER OF CHILDREN			
	0	1	2	3
20-30	.05* (0)**	.3385 (.500)	.8 (.500)	1.0 (1.000)
31-40	.0375 (0)	.7375 (.500)	1.0 (1.000)	1.0 (1.000)
41-50	.1 (0)	.3667 (0)	.8667 (0)	1.0 (0)

* Actual Distribution

** Simulated Distribution

TABLE B.2.9

ALBERTA

AGE GROUP OF MOTHER	NUMBER OF CHILDREN			
	0	1	2	3
20-30	.05* (0)**	.235 (.250)	.800 (.875)	1.000 (1.000)
31-40	.0758 (0)	.7758 (.800)	1.000 (1.000)	1.000 (1.000)
41-50	.1 (0)	.3085 (.250)	.8083 (1.000)	1.000 (1.000)

* Actual Distribution

** Simulated Distribution

TABLE B.2.10

BRITISH COLUMBIA

AGE GROUP OF MOTHER	NUMBER OF CHILDREN			
	0	1	2	3
20-30	.050* (.026)	.5396 (.462)	.800 (.718)	1.000 (1.000)
31-40	.026 (0)	.726 (.632)	1.000 (1.000)	1.000 (1.000)
41-50	.100 (0)	.178 (.125)	.678 (.500)	1.000 (1.000)

* Actual Distribution

** Simulated Distribution

TABLE B.3.2

INCOME GROUPS OF NEW IMMIGRANTS

MALE - MARRIED

AGE GROUP	\$750	\$1500	\$2500	\$3500	\$4500	\$5500	\$7000	\$9000	\$12500	\$18000
15-19	0* (0)**	0 (0)	.125 (0)	.625 (0)	.750 (1.000)	.875 (1.000)	.875 (1.000)	1.000 (1.000)	1.000 (1.000)	1.000 (1.000)
20-30	.027 (.035)	.073 (.085)	.154 (.174)	.291 (.347)	.453 (.500)	.600 (.659)	.786 (.827)	.920 (.926)	.988 (1.000)	1.000 (1.000)
31-40	.032 (.052)	.079 (.104)	.158 (.201)	.294 (.395)	.451 (.507)	.571 (.630)	.728 (.766)	.807 (.798)	.951 (.974)	1.000 (1.000)
41-50	.043 (.052)	.117 (.155)	.166 (.241)	.302 (.344)	.413 (.413)	.518 (.499)	.678 (.690)	.764 (.759)	.857 (.862)	1.000 (1.000)
51-65	.175 (.972)	.228 (.144)	.281 (.144)	.404 (.263)	.527 (.382)	.667 (.596)	.79 (.691)	.825 (.762)	.913 (.905)	1.000 (1.000)
65+	.333 (.375)	.333 (.375)	.333 (.375)	.666 (.563)	.666 (.563)	.666 (.563)	.666 (.563)	.666 (.563)	.666 (.563)	1.000 (1.000)

* Actual Distribution

** Simulated Distribution

TABLE B.3.3

INCOME GROUPS OF NEW IMMIGRANTS

FEMALE - SINGLE

AGE GROUP	\$750	\$1500	\$2500	\$3500	\$4500	\$5500	\$7000	\$9000	\$12500	\$18000
15-19	.109* (.194)**	.400 (.580)	.782 (.903)	.946 (1.000)	1.000 (1.000)	1.000 (1.000)	1.000 (1.000)	1.000 (1.000)	1.000 (1.000)	1.000 (1.000)
20-30	.043 (.064)	.148 (.179)	.349 (.415)	.566 (.633)	.779 (.804)	.896 (.898)	.972 (.983)	.99 (.996)	1.000 (1.000)	1.000 (1.000)
31-40	.145 (.308)	.290 (.334)	.422 (.513)	.580 (.641)	.764 (.795)	.843 (.846)	.922 (.897)	.988 (1.000)	1.000 (1.000)	1.000 (1.000)
41-50	.111 (.333)	.222 (.466)	.444 (.666)	.666 (.866)	.888 (.933)	.888 (.933)	1.000 (1.000)	1.000 (1.000)	1.000 (1.000)	1.000 (1.000)
51-65	0 (0)	.5 (.597)	1.000 (1.000)	1.000 (1.000)	1.000 (1.000)	1.000 (1.000)	1.000 (1.000)	1.000 (1.000)	1.000 (1.000)	1.000 (1.000)
65+	1.000 (1.000)	1.000 (1.000)	1.000 (1.000)	1.000 (1.000)	1.000 (1.000)	1.000 (1.000)	1.000 (1.000)	1.000 (1.000)	1.000 (1.000)	1.000 (1.000)

* Actual Distribution
** Derived Distribution

TABLE B.3.4

INCOME GROUPS OF NEW IMMIGRANTS

FEMALE - MARRIED

AGE GROUP	\$750	\$1500	\$2500	\$3500	\$4500	\$5500	\$7000	\$9000	\$12500	\$18000
15-19	.190* (0)**	.400 (0)	.782 (.667)	.946 (1.000)	1.000 (1.000)	1.000 (1.000)	1.000 (1.000)	1.000 (1.000)	1.000 (1.000)	1.000 (1.000)
20-30	.043 (0)	.148 (.097)	.349 (.268)	.566 (.487)	.779 (.609)	.896 (.780)	.972 (.951)	.999 (.951)	1.000 (1.000)	1.000 (1.000)
31-40	.145 (.067)	.290 (.300)	.422 (.433)	.580 (.633)	.764 (.700)	.843 (.867)	.922 (.967)	.988 (1.000)	1.000 (1.000)	1.000 (1.000)
41-50	.111 (.091)	.222 (.091)	.444 (.545)	.666 (.818)	.888 (1.000)	.888 (1.000)	1.000 (1.000)	1.000 (1.000)	1.000 (1.000)	1.000 (1.000)
51-65	0 (0)	.5 (.200)	1.000 (1.000)	1.000 (1.000)	1.000 (1.000)	1.000 (1.000)	1.000 (1.000)	1.000 (1.000)	1.000 (1.000)	1.000 (1.000)
65+	1.000 (1.000)	1.000 (1.000)	1.000 (1.000)	1.000 (1.000)	1.000 (1.000)	1.000 (1.000)	1.000 (1.000)	1.000 (1.000)	1.000 (1.000)	1.000 (1.000)

* Actual Distribution
 ** Derived Distribution

TABLE B.4.1

JOINT DISTRIBUTION OF ARRIVING IMMIGRANTS

MARRIED PEOPLE

PROVINCE	15-19		20-30		31-40		41-50		51-65		65+		TOTAL
	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	
NEWFOUNDLAND	1* (0)**	3 (0)	79 (100)	95 (100)	76 (100)	66 (100)	28 (50)	21 (0)	16 (0)	17 (0)	5 (0)	3 (50)	410 (500)
PRINCE EDWARD ISLAND	0 (0)	1 (0)	6 (0)	10 (0)	6 (0)	8 (0)	8 (0)	5 (0)	15 (0)	12 (0)	6 (0)	5 (0)	82 (0)
NOVA SCOTIA	1 (0)	5 (0)	151 (150)	200 (200)	115 (100)	185 (100)	47 (50)	33 (0)	53 (50)	64 (50)	40 (50)	20 (50)	814 (800)
NEW BRUNSWICK	2 (0)	12 (50)	89 (100)	121 (200)	72 (100)	56 (50)	35 (0)	21 (0)	35 (50)	29 (0)	22 (50)	16 (0)	510 (600)
QUEBEC	8 (0)	186 (200)	1527 (1600)	1906 (1950)	1178 (1200)	882 (900)	467 (500)	340 (350)	338 (350)	319 (300)	129 (100)	64 (50)	7394 (9500)
ONTARIO	36 (50)	843 (850)	5062 (5100)	5634 (5700)	4033 (4050)	3035 (3000)	1393 (1400)	1196 (1200)	1064 (1050)	1045 (1050)	406 (400)	236 (250)	23988 (24100)
MANITOBA	2 (0)	48 (50)	468 (500)	523 (500)	328 (350)	242 (250)	99 (100)	100 (100)	67 (50)	62 (100)	26 (0)	15 (0)	1980 (2000)
SASKATCHEWAN	0 (0)	13 (0)	113 (150)	138 (100)	106 (100)	80 (100)	45 (50)	39 (0)	23 (0)	16 (50)	5 (0)	6 (50)	584 (600)
ALBERTA	7 (0)	67 (50)	720 (700)	812 (800)	602 (600)	498 (500)	224 (200)	194 (200)	128 (100)	117 (100)	46 (50)	39 (0)	3454 (3300)
BRITISH COLUMBIA	16 (0)	184 (200)	1707 (1700)	1974 (1950)	1133 (1100)	943 (950)	558 (550)	431 (400)	441 (450)	380 (350)	145 (150)	88 (100)	8000 (7900)

* Actual Number

** Simulated Number

TABLE B.4.2

JOINT DISTRIBUTION OF ARRIVING IMMIGRANTS

SINGLE PEOPLE

PROVINCE	15-19		20-30		31-40		41-50		51-65		65+		TOTAL
	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	
NEWFOUNDLAND	3* (50)**	3 (0)	75 (100)	60 (50)	16 (0)	6 (0)	4 (0)	4 (0)	2 (0)	7 (0)	3 (0)	6 (0)	189 (200)
PRINCE EDWARD ISLAND	1 (0)	0 (0)	12 (0)	4 (0)	1 (0)	0 (0)	0 (0)	1 (0)	2 (0)	2 (0)	5 (0)	13 (0)	41 (0)
NOVA SCOTIA	11 (0)	8 (0)	184 (150)	105 (100)	27 (50)	20 (50)	6 (50)	13 (0)	5 (0)	39 (50)	18 (50)	46 (50)	550 (482)
NEW BRUNSWICK	5 (0)	5 (0)	93 (100)	50 (50)	19 (0)	11 (0)	3 (0)	1 (0)	6 (0)	21 (50)	3 (0)	30 (0)	247 (200)
QUEBEC	257 (250)	323 (350)	2875 (2850)	2131 (2100)	458 (450)	381 (400)	75 (100)	157 (150)	54 (50)	348 (350)	72 (50)	263 (300)	7394 (7400)
ONTARIO	869 (850)	1004 (1000)	8427 (8450)	6500 (6500)	1204 (1200)	1068 (1100)	201 (200)	463 (450)	161 (150)	1050 (1050)	211 (250)	810 (800)	21968 (22000)
MANITOBA	48 (50)	72 (50)	661 (650)	574 (600)	93 (100)	84 (100)	12 (0)	33 (0)	15 (0)	68 (50)	9 (0)	38 (0)	1707 (1600)
SASKATCHEWAN	10 (50)	7 (0)	129 (100)	98 (100)	33 (50)	15 (0)	6 (50)	12 (0)	6 (0)	30 (0)	5 (0)	24 (50)	375 (400)
ALBERTA	103 (100)	59 (50)	981 (950)	713 (700)	147 (150)	115 (100)	35 (50)	50 (50)	20 (0)	103 (100)	24 (50)	82 (50)	2432 (2350)
BRITISH COLUMBIA	152 (150)	124 (100)	2233 (2200)	1497 (1500)	278 (250)	226 (200)	80 (50)	114 (100)	40 (50)	267 (250)	57 (150)	261 (300)	5324 (5300)

* Actual Number
** Simulated Number

APPENDIX B.4

COMPUTER PROGRAM IMMIG

F1500CT70 3/28/74

SOURCE STATEMENT

LINE	CT	ADDR	TEXT	READ	STATEMENT
1	0000		1 READ	0	4,C
2	0000		2	1	14,10,11,12
3	0000		3	1	14,SAVEAREA+4 STORE PRES SAVEAREA ADDR
4	0000		4	1	13,SAVEAREA SET UP NEW SAVEAREA
5	0000		5	1	13,8(3) STORE NEW SAVEAREA ADDR
6	0000		6	1	13,8(3) LOAD RESULT ARRAY ADDR
7	0000		7	1	13,8(3) STORE NEW FLAG ADDR
8	0000		8	1	OPEN NEW, X, 20, 15 FILE OPEN YLT?
9	0000		9	1	CONTINUE YES
10	0000		10	1	13,8(3) X, 20, 15 OPEN IT
11	0000		11	1	4(1), X, 20, 15 FOR ANOTHER ARGUMENT - THE DDNAME
12	0000		12	1	OPEN NOT THERE, SO PROCEED WITH OPEN
13	0000		13	1	5,8(1) LOAD ADDR OF NEW DDNAME
14	0000		14	1	13,8(3) X, 20, 15 STICK IT INTO THE DCL
15	0000		15	1	13,8(3) X, 20, 15 ELY, 1
16	0000		16	1	0,4 ALIGN LIST TO FOLLOW
17	0000		17	1	1,*,4 LOAD REG 1 & LIST ADDR
18	0000		18	1	AL1(120) OPTION LYTE
19	0000		19	1	AL1(120) DCL ADDRESS
20	0000		20	1	19 ISSUE OPEN SVC
21	0000		21	1	13,8(3) X, 20, 15 LOAD ADDR OF ARRAY
22	0000		22	1	13,8(3) X, 20, 15 LOAD ADDR OF DCL
23	0000		23	1	13,8(3) X, 20, 15 CALL GET ROUTINE
24	0000		24	1	13,8(3) X, 20, 15 CALL GET ROUTINE
25	0000		25	1	13,8(3) X, 20, 15 CALL GET ROUTINE
26	0000		26	1	13,8(3) X, 20, 15 CALL GET ROUTINE
27	0000		27	1	13,8(3) X, 20, 15 CALL GET ROUTINE
28	0000		28	1	13,8(3) X, 20, 15 CALL GET ROUTINE
29	0000		29	1	13,8(3) X, 20, 15 CALL GET ROUTINE
30	0000		30	1	13,8(3) X, 20, 15 CALL GET ROUTINE
31	0000		31	1	13,8(3) X, 20, 15 CALL GET ROUTINE
32	0000		32	1	13,8(3) X, 20, 15 CALL GET ROUTINE
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36	0000		36	1	13,8(3) X, 20, 15 CALL GET ROUTINE
37	0000		37	1	13,8(3) X, 20, 15 CALL GET ROUTINE
38	0000		38	1	13,8(3) X, 20, 15 CALL GET ROUTINE
39	0000		39	1	13,8(3) X, 20, 15 CALL GET ROUTINE
40	0000		40	1	13,8(3) X, 20, 15 CALL GET ROUTINE
41	0000		41	1	13,8(3) X, 20, 15 CALL GET ROUTINE
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81	0000		81	1	13,8(3) X, 20, 15 CALL GET ROUTINE
82	0000		82	1	13,8(3) X, 20, 15 CALL GET ROUTINE
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86	0000		86	1	13,8(3) X, 20, 15 CALL GET ROUTINE
87	0000		87	1	13,8(3) X, 20, 15 CALL GET ROUTINE
88	0000		88	1	13,8(3) X, 20, 15 CALL GET ROUTINE
89	0000		89	1	13,8(3) X, 20, 15 CALL GET ROUTINE
90	0000		90	1	13,8(3) X, 20, 15 CALL GET ROUTINE
91	0000		91	1	13,8(3) X, 20, 15 CALL GET ROUTINE
92	0000		92	1	13,8(3) X, 20, 15 CALL GET ROUTINE
93	0000		93	1	13,8(3) X, 20, 15 CALL GET ROUTINE
94	0000		94	1	13,8(3) X, 20, 15 CALL GET ROUTINE
95	0000		95	1	13,8(3) X, 20, 15 CALL GET ROUTINE
96	0000		96	1	13,8(3) X, 20, 15 CALL GET ROUTINE
97	0000		97	1	13,8(3) X, 20, 15 CALL GET ROUTINE
98	0000		98	1	13,8(3) X, 20, 15 CALL GET ROUTINE
99	0000		99	1	13,8(3) X, 20, 15 CALL GET ROUTINE
100	0000		100	1	13,8(3) X, 20, 15 CALL GET ROUTINE

CALLING SEQUENCE OF
SUBROUTINE

CALL PLANT
CALL PLANT

PAGE 0001

11/42/32

JA71 = 74067

THE
LXV

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000000000
000000500
000000900

三

[illegible]

C PROGRAM TO READ IN IMMIGRATION DATA

C THE VARIABLES ARE

C J(K,I,J,K) THE PROBABILITY THAT A PERSON OF SEX I(I=M,2=F)
C IN AGE GROUP J(1-6) HAS EDUCATION STATUS K+2
C (CUMULATIVE DISTRIBUTION)
C CHILD(I,J,K) J+1 WILL HAVE K-1 CHILDREN(CUMULATIVE)
C M(L,I,J,K,L) THE CUMULATIVE PROBABILITY THAT A PERSON OF SEX
C I(1-M,2=F), INSTANT J(1-SNGL,2-HAR), AND AGE K WILL
C BE IN INCOME GROUP L (1-750,2-1000,3-2500,4-4500,
C 5-4500,6-5500,7-7000,8-9000,9-10500,10-15000
C AVERAGE)
C E(I,J,K,L) THE PROBABILITY OF AN ADULT IN INSTANT BEING IN AGE
C GROUP I, SEX J, INSTANT K, AND PROVINCE L.
C TOTAL THE TOTAL NUMBER OF IMMIGRANTS IN 1971
C ACP(I,J) THE CUMULATIVE PROBABILITY THAT A PERSON IN PROVINCE I
C WILL SPEAK LANGUAGE J(1-ENG,2-FR,3-OTHER)

C DATA FOR 1971
C 1(15-19),2(20-29),3(30-39),4(40-49),5(50-59),6(60-69)
C 7(70-79),8(80-89),9(90-99),10(100-109),11(110-119),12(120-129),
C 13(130-139),14(140-149),15(150-159),16(160-169),17(170-179),
C 18(180-189),19(190-199),20(200-209),21(210-219),22(220-229),
C 23(230-239),24(240-249),25(250-259),26(260-269),27(270-279),
C 28(280-289),29(290-299),30(300-309),31(310-319),32(320-329),
C 33(330-339),34(340-349),35(350-359),36(360-369),37(370-379),
C 38(380-389),39(390-399),40(400-409),41(410-419),42(420-429),
C 43(430-439),44(440-449),45(450-459),46(460-469),47(470-479),
C 48(480-489),49(490-499),50(500-509),51(510-519),52(520-529),
C 53(530-539),54(540-549),55(550-559),56(560-569),57(570-579),
C 58(580-589),59(590-599),60(600-609),61(610-619),62(620-629),
C 63(630-639),64(640-649),65(650-659),66(660-669),67(670-679),
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  231 CONTINUE  
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CALL FARDG(IIX,IIX,P)
K=K+1
IF(I,LE,VEND(I,VIN,K))GO TO 305
317 CONTINUE
303 FLOCTR(I)=R
C EDUCATION FOR ALL CHILDREN
C
CALL FARDG(IIX,IIX,P)
304 PREPARE
305
IF(I,LE,VEND(I,VIN,K))GO TO 322
322 CONTINUE
306
307
CALL FARDG(IIX,IIX,P)
YACT(I)=20
IF(I,LE,VAT)YACT(I)=21
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C INCOME TO BE DETERMINED
C
CALL NAMEP(IIX,IIX,R)
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APPENDIX C

THE DEMOGRAPHIC BLOCK

APPENDIX C.1

THE DEMOGRAPHIC BLOCK PARAMETERS

THE DEMOGRAPHIC BLOCK PARAMETERS

C.1.1. Death Process Probabilities

The underlying probabilities for this process are the survival probabilities:

$$S = S(a,s,t) = C(a,s) + \gamma(a,s) \exp\{-A(a,s) \cdot (t-1970)\} \quad (1)$$

as introduced in section 4.2.1, where $a=0,1,\dots,99$ is age, s is sex and t is time indicating the exact year in question. The estimated parameters $C(a,s)$, $\gamma(a,s)$ and $A(a,s)$ are given in Table C.1. In this table each combination of sex and age occupies two lines. In the first line are shown sex, age, the seven estimated survival ratios by W. Zayachkowski, the constant C , the constant γ and finally the constant A as estimated by our model described in section 4.2.1. The second line contains the seven computed survival ratios by the formula (1) above. Underneath the γ constant is shown the t value which indicates the significance of the parameters. Finally, the correlation coefficient is presented. For degrees of freedom being equal to $7-1=6$ and at confidence levels of 90% and 95% we have critical values of 1.943 and 2.447, respectively. As can be seen, all our t -values are significantly higher than these critical values.

For the period of 5 years from 1968 to 1972 the survival probabilities are computed and listed in Table C.2.

TABLE C.1. SURVIVAL RATIOS' REGRESSION COEFFICIENTS C, γ , A.

SEX AGE	1956	1961	1966	1969	1974	1979	1984	CONST.	GAMMA	ALPHA
M 0	0.97000	0.97523	0.97772	0.98017	0.98127	0.98227	0.98326	0.98471	(-0.0488)	0.0218
	0.96923	0.97450	0.97794	0.97941	0.98120	0.98258	0.98310		(-36.55)	C.C.=0.99075
F 1	0.99323	0.99493	0.99559	0.99609	0.99719	0.99739	0.99754	0.99767	(-0.0077)	0.12141
	0.99322	0.99526	0.99641	0.99680	0.99719	0.99739	0.99753		(-36.52)	C.C.=0.99050
M 2	0.99423	0.99671	0.99670	0.99810	0.99800	0.99905	0.99910	0.99917	(-22.84)	0.00027
	0.99422	0.99611	0.99716	0.99810	0.99809	0.99905	0.99906		(-0.0011)	C.C.=0.99077
F 3	0.99875	0.99980	0.99980	0.99981	0.99981	0.99981	0.99981	0.99984	(***)	0.10759
	0.99874	0.99984	0.99987	0.99981	0.99981	0.99981	0.99981		(-0.0007)	C.C.=0.99071
M 4	0.99830	0.99909	0.99916	0.99924	0.99927	0.99929	0.99930	0.99931	(-56.02)	0.11038
	0.99829	0.99911	0.99920	0.99923	0.99927	0.99929	0.99930		(-56.02)	C.C.=0.99071
F 5	0.99912	0.99923	0.99920	0.99920	0.99923	0.99925	0.99926	0.99922	(-5.71)	0.12425
	0.99909	0.99921	0.99921	0.99921	0.99921	0.99925	0.99926		(-5.71)	C.C.=0.99071
M 6	0.99920	0.99931	0.99931	0.99931	0.99931	0.99931	0.99931	0.99931	(-72.58)	0.10546
	0.99920	0.99931	0.99931	0.99931	0.99931	0.99931	0.99931		(-72.58)	C.C.=0.99071
F 7	0.99927	0.99938	0.99937	0.99937	0.99937	0.99937	0.99937	0.99937	(-18.87)	0.10546
	0.99927	0.99938	0.99937	0.99937	0.99937	0.99937	0.99937		(-18.87)	C.C.=0.99071
M 8	0.99934	0.99943	0.99942	0.99942	0.99942	0.99942	0.99942	0.99942	(-23.20)	0.10546
	0.99934	0.99943	0.99942	0.99942	0.99942	0.99942	0.99942		(-23.20)	C.C.=0.99071
F 9	0.99940	0.99947	0.99947	0.99947	0.99947	0.99947	0.99947	0.99947	(-23.20)	0.10546
	0.99940	0.99947	0.99947	0.99947	0.99947	0.99947	0.99947		(-23.20)	C.C.=0.99071
M 10	0.99944	0.99950	0.99948	0.99948	0.99948	0.99948	0.99948	0.99948	(-1.86)	0.11031
	0.99944	0.99950	0.99948	0.99948	0.99948	0.99948	0.99948		(-1.86)	C.C.=0.99071
F 11	0.99942	0.99946	0.99946	0.99946	0.99946	0.99946	0.99946	0.99946	(-13.21)	0.11031
	0.99942	0.99946	0.99946	0.99946	0.99946	0.99946	0.99946		(-13.21)	C.C.=0.99071
M 12	0.99940	0.99947	0.99947	0.99947	0.99947	0.99947	0.99947	0.99947	(-28.63)	0.11031
	0.99940	0.99947	0.99947	0.99947	0.99947	0.99947	0.99947		(-28.63)	C.C.=0.99071
F 13	0.99934	0.99942	0.99942	0.99942	0.99942	0.99942	0.99942	0.99942	(-65.03)	0.11031
	0.99934	0.99942	0.99942	0.99942	0.99942	0.99942	0.99942		(-65.03)	C.C.=0.99071
M 14	0.99923	0.99931	0.99931	0.99931	0.99931	0.99931	0.99931	0.99931	(-95.19)	0.11031
	0.99923	0.99931	0.99931	0.99931	0.99931	0.99931	0.99931		(-95.19)	C.C.=0.99071
F 15	0.99910	0.99918	0.99918	0.99918	0.99918	0.99918	0.99918	0.99918	(-6.15)	0.11031
	0.99910	0.99918	0.99918	0.99918	0.99918	0.99918	0.99918		(-6.15)	C.C.=0.99071
M 16	0.99907	0.99907	0.99907	0.99907	0.99907	0.99907	0.99907	0.99907	(-6.07)	0.11031
	0.99907	0.99907	0.99907	0.99907	0.99907	0.99907	0.99907		(-6.07)	C.C.=0.99071
F 17	0.99879	0.99881	0.99881	0.99881	0.99881	0.99881	0.99881	0.99881	(-8.64)	0.11031
	0.99879	0.99881	0.99881	0.99881	0.99881	0.99881	0.99881		(-8.64)	C.C.=0.99071
M 18	0.99865	0.99875	0.99875	0.99875	0.99875	0.99875	0.99875	0.99875	(-3.61)	0.12019
	0.99865	0.99875	0.99875	0.99875	0.99875	0.99875	0.99875		(-3.61)	C.C.=0.99071
F 19	0.99850	0.99860	0.99860	0.99860	0.99860	0.99860	0.99860	0.99860	(-4.46)	0.12019
	0.99850	0.99860	0.99860	0.99860	0.99860	0.99860	0.99860		(-4.46)	C.C.=0.99071
M 20	0.99840	0.99845	0.99845	0.99845	0.99845	0.99845	0.99845	0.99845	(-0.61)	0.12019
	0.99840	0.99845	0.99845	0.99845	0.99845	0.99845	0.99845		(-0.61)	C.C.=0.99071
F 21	0.99830	0.99835	0.99835	0.99835	0.99835	0.99835	0.99835	0.99835	(-7.00)	0.12019
	0.99830	0.99835	0.99835	0.99835	0.99835	0.99835	0.99835		(-7.00)	C.C.=0.99071
M 22	0.99820	0.99825	0.99825	0.99825	0.99825	0.99825	0.99825	0.99825	(-7.23)	0.12019
	0.99820	0.99825	0.99825	0.99825	0.99825	0.99825	0.99825		(-7.23)	C.C.=0.99071
F 23	0.99810	0.99815	0.99815	0.99815	0.99815	0.99815	0.99815	0.99815	(-7.23)	0.12019
	0.99810	0.99815	0.99815	0.99815	0.99815	0.99815	0.99815		(-7.23)	C.C.=0.99071
M 24	0.99800	0.99805	0.99805	0.99805	0.99805	0.99805	0.99805	0.99805	(-7.23)	0.12019
	0.99800	0.99805	0.99805	0.99805	0.99805	0.99805	0.99805		(-7.23)	C.C.=0.99071

TABLE C.1. SURVIVAL RATIOS' REGRESSION COEFFICIENTS, C, γ , A. (Cont'd.)

X AGE	1956	1961	1966	1969	1974	1976	1984	CONST.	GAMMA	ALPHA
M 25	0.99529	0.99840	0.99834	0.99846	0.99851	0.99855	0.99854	0.99855	-0.00093	0.08970
F 26	0.99833	0.99840	0.99837	0.99846	0.99855	0.99857	0.99858	0.99859	(-1.0000)	0.08970
M 27	0.99833	0.99842	0.99846	0.99850	0.99855	0.99859	0.99860	0.99861	(-2.76)	0.08970
M 28	0.99836	0.99850	0.99852	0.99855	0.99857	0.99859	0.99860	0.99861	(-14.10)	0.08970
M 29	0.99836	0.99851	0.99853	0.99856	0.99859	0.99861	0.99863	0.99866	(-21.03)	0.08970
M 30	0.99836	0.99852	0.99855	0.99859	0.99862	0.99864	0.99866	0.99868	(-10.75)	0.08970
M 31	0.99836	0.99845	0.99848	0.99851	0.99853	0.99855	0.99857	0.99860	(-3.43)	0.08970
M 32	0.99827	0.99844	0.99846	0.99849	0.99852	0.99854	0.99856	0.99858	(-13.40)	0.08970
M 33	0.99821	0.99840	0.99842	0.99845	0.99848	0.99850	0.99852	0.99854	(-10.30)	0.08970
M 34	0.99816	0.99836	0.99838	0.99841	0.99844	0.99846	0.99848	0.99850	(-19.21)	0.08970
M 35	0.99811	0.99822	0.99824	0.99826	0.99828	0.99830	0.99832	0.99834	(-27.64)	0.08970
M 36	0.99803	0.99813	0.99815	0.99817	0.99819	0.99821	0.99823	0.99825	(-6.32)	0.08970
M 37	0.99792	0.99802	0.99804	0.99806	0.99808	0.99810	0.99812	0.99814	(-44.66)	0.08970
M 38	0.99785	0.99795	0.99797	0.99799	0.99801	0.99803	0.99805	0.99807	(-27.11)	0.08970
M 39	0.99775	0.99785	0.99787	0.99789	0.99791	0.99793	0.99795	0.99797	(0.0)	0.08970
M 40	0.99765	0.99775	0.99777	0.99779	0.99781	0.99783	0.99785	0.99787	(-0.0109)	0.08970
M 41	0.99755	0.99765	0.99767	0.99769	0.99771	0.99773	0.99775	0.99777	(-26.64)	0.08970
M 42	0.99745	0.99755	0.99757	0.99759	0.99761	0.99763	0.99765	0.99767	(-6.009)	0.08970
M 43	0.99735	0.99745	0.99747	0.99749	0.99751	0.99753	0.99755	0.99757	(-5.79)	0.08970
M 44	0.99725	0.99735	0.99737	0.99739	0.99741	0.99743	0.99745	0.99747	(-0.006)	0.08970
M 45	0.99715	0.99725	0.99727	0.99729	0.99731	0.99733	0.99735	0.99737	(-7.49)	0.08970
M 46	0.99705	0.99715	0.99717	0.99719	0.99721	0.99723	0.99725	0.99727	(-0.010)	0.08970
M 47	0.99695	0.99705	0.99707	0.99709	0.99711	0.99713	0.99715	0.99717	(-0.0004)	0.08970
M 48	0.99685	0.99695	0.99697	0.99699	0.99701	0.99703	0.99705	0.99707	(-1.00)	0.08970
M 49	0.99675	0.99685	0.99687	0.99689	0.99691	0.99693	0.99695	0.99697	(-42.39)	0.08970
M 50	0.99665	0.99675	0.99677	0.99679	0.99681	0.99683	0.99685	0.99687	(-27.14)	0.08970
M 51	0.99655	0.99665	0.99667	0.99669	0.99671	0.99673	0.99675	0.99677	(-24.21)	0.08970
M 52	0.99645	0.99655	0.99657	0.99659	0.99661	0.99663	0.99665	0.99667	(-0.0002)	0.08970
M 53	0.99635	0.99645	0.99647	0.99649	0.99651	0.99653	0.99655	0.99657	(-0.0002)	0.08970
M 54	0.99625	0.99635	0.99637	0.99639	0.99641	0.99643	0.99645	0.99647	(-0.0002)	0.08970
M 55	0.99615	0.99625	0.99627	0.99629	0.99631	0.99633	0.99635	0.99637	(-0.0002)	0.08970
M 56	0.99605	0.99615	0.99617	0.99619	0.99621	0.99623	0.99625	0.99627	(-0.0002)	0.08970
M 57	0.99595	0.99605	0.99607	0.99609	0.99611	0.99613	0.99615	0.99617	(-0.0002)	0.08970
M 58	0.99585	0.99595	0.99597	0.99599	0.99601	0.99603	0.99605	0.99607	(-0.0002)	0.08970
M 59	0.99575	0.99585	0.99587	0.99589	0.99591	0.99593	0.99595	0.99597	(-0.0002)	0.08970
M 60	0.99565	0.99575	0.99577	0.99579	0.99581	0.99583	0.99585	0.99587	(-0.0002)	0.08970
M 61	0.99555	0.99565	0.99567	0.99569	0.99571	0.99573	0.99575	0.99577	(-0.0002)	0.08970
M 62	0.99545	0.99555	0.99557	0.99559	0.99561	0.99563	0.99565	0.99567	(-0.0002)	0.08970
M 63	0.99535	0.99545	0.99547	0.99549	0.99551	0.99553	0.99555	0.99557	(-0.0002)	0.08970
M 64	0.99525	0.99535	0.99537	0.99539	0.99541	0.99543	0.99545	0.99547	(-0.0002)	0.08970
M 65	0.99515	0.99525	0.99527	0.99529	0.99531	0.99533	0.99535	0.99537	(-0.0002)	0.08970
M 66	0.99505	0.99515	0.99517	0.99519	0.99521	0.99523	0.99525	0.99527	(-0.0002)	0.08970
M 67	0.99495	0.99505	0.99507	0.99509	0.99511	0.99513	0.99515	0.99517	(-0.0002)	0.08970
M 68	0.99485	0.99495	0.99497	0.99499	0.99501	0.99503	0.99505	0.99507	(-0.0002)	0.08970
M 69	0.99475	0.99485	0.99487	0.99489	0.99491	0.99493	0.99495	0.99497	(-0.0002)	0.08970
M 70	0.99465	0.99475	0.99477	0.99479	0.99481	0.99483	0.99485	0.99487	(-0.0002)	0.08970
M 71	0.99455	0.99465	0.99467	0.99469	0.99471	0.99473	0.99475	0.99477	(-0.0002)	0.08970
M 72	0.99445	0.99455	0.99457	0.99459	0.99461	0.99463	0.99465	0.99467	(-0.0002)	0.08970
M 73	0.99435	0.99445	0.99447	0.99449	0.99451	0.99453	0.99455	0.99457	(-0.0002)	0.08970
M 74	0.99425	0.99435	0.99437	0.99439	0.99441	0.99443	0.99445	0.99447	(-0.0002)	0.08970
M 75	0.99415	0.99425	0.99427	0.99429	0.99431	0.99433	0.99435	0.99437	(-0.0002)	0.08970
M 76	0.99405	0.99415	0.99417	0.99419	0.99421	0.99423	0.99425	0.99427	(-0.0002)	0.08970
M 77	0.99395	0.99405	0.99407	0.99409	0.99411	0.99413	0.99415	0.99417	(-0.0002)	0.08970
M 78	0.99385	0.99395	0.99397	0.99399	0.99401	0.99403	0.99405	0.99407	(-0.0002)	0.08970
M 79	0.99375	0.99385	0.99387	0.99389	0.99391	0.99393	0.99395	0.99397	(-0.0002)	0.08970
M 80	0.99365	0.99375	0.99377	0.99379	0.99381	0.99383	0.99385	0.99387	(-0.0002)	0.08970
M 81	0.99355	0.99365	0.99367	0.99369	0.99371	0.99373	0.99375	0.99377	(-0.0002)	0.08970
M 82	0.99345	0.99355	0.99357	0.99359	0.99361	0.99363	0.99365	0.99367	(-0.0002)	0.08970
M 83	0.99335	0.99345	0.99347	0.99349	0.99351	0.99353	0.99355	0.99357	(-0.0002)	0.08970
M 84	0.99325	0.99335	0.99337	0.99339	0.99341	0.99343	0.99345	0.99347	(-0.0002)	0.08970
M 85	0.99315	0.99325	0.99327	0.99329	0.99331	0.99333	0.99335	0.99337	(-0.0002)	0.08970
M 86	0.99305	0.99315	0.99317	0.99319	0.99321	0.99323	0.99325	0.99327	(-0.0002)	0.08970
M 87	0.99295	0.99305	0.99307	0.99309	0.99311	0.99313	0.99315	0.99317	(-0.0002)	0.08970
M 88	0.99285	0.99295	0.99297	0.99299	0.99301	0.99303	0.99305	0.99307	(-0.0002)	0.08970
M 89	0.99275	0.99285	0.99287	0.99289	0.99291	0.99293	0.99295	0.99297	(-0.0002)	0.08970
M 90	0.99265	0.99275	0.99277	0.99279	0.99281	0.99283	0.99285	0.99287	(-0.0002)	0.08970
M 91	0.99255	0.99265	0.99267	0.99269	0.99271	0.99273	0.99275	0.99277	(-0.0002)	0.08970
M 92	0.99245	0.99255	0.99257	0.99259	0.99261	0.99263	0.99265	0.99267	(-0.0002)	0.08970
M 93	0.99235	0.99245	0.99247	0.99249	0.99251	0.99253	0.99255	0.99257	(-0.0002)	0.08970
M 94	0.99225	0.99235	0.99237	0.99239	0.99241	0.99243	0.99245	0.99247	(-0.0002)	0.08970
M 95	0.99215	0.99225	0.99227	0.99229	0.99231	0.99233	0.99235	0.99237	(-0.0002)	0.08970
M 96	0.99205	0.99215	0.99217	0.99219	0.99221	0.99223	0.99225	0.99227	(-0.0002)	0.08970
M 97	0.99195	0.99205	0.99207	0.99209	0.99211	0.99213	0.99215	0.99217	(-0.0002)	0.08970
M 98	0.99185	0.99195	0.99197	0.99199	0.99201	0.99203	0.99205	0.99207	(-0.0002)	0.08970
M 99	0.99175	0.99185	0.99187	0.99189	0.99191	0.99193	0.99195	0.99197	(-0.0002)	0.08970
M 100	0.99165	0.99175	0.99177	0.99179	0.99181	0.99183	0.99185	0.99187	(-0.0002)	0.08970

TABLE C.1. SURVIVAL RATIOS' REGRESSION COEFFICIENTS, C,Y,A. (Cont'd)

SEX AGE	1950	1961	1966	1974	1979	1984	CONST.	CAYEA	ALPHA
M 50	0.99244	0.99255	0.99250	0.99258	0.99254	0.99501	0.99318	-0.00009	0.04120
M 51	0.99241	0.99271	0.99270	0.99280	0.99290	0.99229	-0.00009	-0.00009	0.04120
M 52	0.99105	0.99177	0.99203	0.99210	0.99216	0.99224	0.99243	-0.00041	0.04224
M 53	0.99104	0.99180	0.99200	0.99200	0.99210	0.99221	0.99221	-0.00001	0.04224
M 54	0.99076	0.99107	0.99114	0.99125	0.99127	0.99141	0.99164	-0.00048	0.04224
M 55	0.99083	0.99093	0.99084	0.99082	0.99080	0.99080	0.99085	-0.00001	0.04224
M 56	0.99082	0.99083	0.99080	0.99082	0.99080	0.99080	0.99085	-0.00001	0.04224
M 57	0.99083	0.99083	0.99080	0.99082	0.99080	0.99080	0.99085	-0.00001	0.04224
M 58	0.99083	0.99083	0.99080	0.99082	0.99080	0.99080	0.99085	-0.00001	0.04224
M 59	0.99083	0.99083	0.99080	0.99082	0.99080	0.99080	0.99085	-0.00001	0.04224
M 60	0.99083	0.99083	0.99080	0.99082	0.99080	0.99080	0.99085	-0.00001	0.04224
M 61	0.99083	0.99083	0.99080	0.99082	0.99080	0.99080	0.99085	-0.00001	0.04224
M 62	0.99083	0.99083	0.99080	0.99082	0.99080	0.99080	0.99085	-0.00001	0.04224
M 63	0.99083	0.99083	0.99080	0.99082	0.99080	0.99080	0.99085	-0.00001	0.04224
M 64	0.99083	0.99083	0.99080	0.99082	0.99080	0.99080	0.99085	-0.00001	0.04224
M 65	0.99083	0.99083	0.99080	0.99082	0.99080	0.99080	0.99085	-0.00001	0.04224
M 66	0.99083	0.99083	0.99080	0.99082	0.99080	0.99080	0.99085	-0.00001	0.04224
M 67	0.99083	0.99083	0.99080	0.99082	0.99080	0.99080	0.99085	-0.00001	0.04224
M 68	0.99083	0.99083	0.99080	0.99082	0.99080	0.99080	0.99085	-0.00001	0.04224
M 69	0.99083	0.99083	0.99080	0.99082	0.99080	0.99080	0.99085	-0.00001	0.04224
M 70	0.99083	0.99083	0.99080	0.99082	0.99080	0.99080	0.99085	-0.00001	0.04224
M 71	0.99083	0.99083	0.99080	0.99082	0.99080	0.99080	0.99085	-0.00001	0.04224
M 72	0.99083	0.99083	0.99080	0.99082	0.99080	0.99080	0.99085	-0.00001	0.04224
M 73	0.99083	0.99083	0.99080	0.99082	0.99080	0.99080	0.99085	-0.00001	0.04224
M 74	0.99083	0.99083	0.99080	0.99082	0.99080	0.99080	0.99085	-0.00001	0.04224

TABLE C.1. SURVIVAL RATIOS' REGRESSION COEFFICIENTS, C,Y,A. (Cont'd.)

AGE	1956	1961	1966	1969	1974	1979	1984	CONST.	GAMMA	ALPHA
75	0.93521	0.93554	0.93547	0.93595	0.93625	0.93657	0.93687	0.93598	0.0	0.0
	0.93598	0.93590	0.93598	0.93598	0.93598	0.93598	0.93598	(0.0)	C.C.=1.00000	
76	0.93510	0.93502	0.93503	0.93503	0.93514	0.93514	0.93514	0.93524	(-0.0241)	C.C.=0.97977
	0.93503	0.93503	0.93507	0.93503	0.93512	0.93512	0.93512	(-0.0241)	C.C.=0.97977	
77	0.93544	0.93543	0.93545	0.93549	0.93561	0.93565	0.93569	0.93578	(-0.0244)	C.C.=0.98484
	0.93544	0.93543	0.93545	0.93549	0.93561	0.93565	0.93569	(-0.0244)	C.C.=0.98484	
78	0.93576	0.93571	0.93571	0.93576	0.93587	0.93587	0.93587	0.93587	(-0.0247)	C.C.=0.98910
	0.93576	0.93571	0.93571	0.93576	0.93587	0.93587	0.93587	(-0.0247)	C.C.=0.98910	
79	0.93597	0.93597	0.93597	0.93597	0.93597	0.93597	0.93597	0.93597	(-0.0247)	C.C.=0.98910
	0.93597	0.93597	0.93597	0.93597	0.93597	0.93597	0.93597	(-0.0247)	C.C.=0.98910	
80	0.93599	0.93599	0.93599	0.93599	0.93599	0.93599	0.93599	0.93599	(0.0)	C.C.=1.00000
	0.93599	0.93599	0.93599	0.93599	0.93599	0.93599	0.93599	(0.0)	C.C.=1.00000	
81	0.93595	0.93595	0.93595	0.93595	0.93595	0.93595	0.93595	0.93595	(-0.0247)	C.C.=0.98484
	0.93595	0.93595	0.93595	0.93595	0.93595	0.93595	0.93595	(-0.0247)	C.C.=0.98484	
82	0.93534	0.93534	0.93534	0.93534	0.93534	0.93534	0.93534	0.93534	(-0.0247)	C.C.=0.98484
	0.93534	0.93534	0.93534	0.93534	0.93534	0.93534	0.93534	(-0.0247)	C.C.=0.98484	
83	0.93534	0.93534	0.93534	0.93534	0.93534	0.93534	0.93534	0.93534	(-0.0247)	C.C.=0.98484
	0.93534	0.93534	0.93534	0.93534	0.93534	0.93534	0.93534	(-0.0247)	C.C.=0.98484	
84	0.93513	0.93513	0.93513	0.93513	0.93513	0.93513	0.93513	0.93513	(-0.0247)	C.C.=0.98484
	0.93513	0.93513	0.93513	0.93513	0.93513	0.93513	0.93513	(-0.0247)	C.C.=0.98484	
85	0.93538	0.93538	0.93538	0.93538	0.93538	0.93538	0.93538	0.93538	(-0.0247)	C.C.=0.98484
	0.93538	0.93538	0.93538	0.93538	0.93538	0.93538	0.93538	(-0.0247)	C.C.=0.98484	
86	0.93524	0.93524	0.93524	0.93524	0.93524	0.93524	0.93524	0.93524	(-0.0247)	C.C.=0.98484
	0.93524	0.93524	0.93524	0.93524	0.93524	0.93524	0.93524	(-0.0247)	C.C.=0.98484	
87	0.93533	0.93533	0.93533	0.93533	0.93533	0.93533	0.93533	0.93533	(-0.0247)	C.C.=0.98484
	0.93533	0.93533	0.93533	0.93533	0.93533	0.93533	0.93533	(-0.0247)	C.C.=0.98484	
88	0.93513	0.93513	0.93513	0.93513	0.93513	0.93513	0.93513	0.93513	(-0.0247)	C.C.=0.98484
	0.93513	0.93513	0.93513	0.93513	0.93513	0.93513	0.93513	(-0.0247)	C.C.=0.98484	
89	0.93507	0.93507	0.93507	0.93507	0.93507	0.93507	0.93507	0.93507	(-0.0247)	C.C.=0.98484
	0.93507	0.93507	0.93507	0.93507	0.93507	0.93507	0.93507	(-0.0247)	C.C.=0.98484	
90	0.93502	0.93502	0.93502	0.93502	0.93502	0.93502	0.93502	0.93502	(-0.0247)	C.C.=0.98484
	0.93502	0.93502	0.93502	0.93502	0.93502	0.93502	0.93502	(-0.0247)	C.C.=0.98484	
91	0.93504	0.93504	0.93504	0.93504	0.93504	0.93504	0.93504	0.93504	(-0.0247)	C.C.=0.98484
	0.93504	0.93504	0.93504	0.93504	0.93504	0.93504	0.93504	(-0.0247)	C.C.=0.98484	
92	0.93504	0.93504	0.93504	0.93504	0.93504	0.93504	0.93504	0.93504	(-0.0247)	C.C.=0.98484
	0.93504	0.93504	0.93504	0.93504	0.93504	0.93504	0.93504	(-0.0247)	C.C.=0.98484	
93	0.93504	0.93504	0.93504	0.93504	0.93504	0.93504	0.93504	0.93504	(-0.0247)	C.C.=0.98484
	0.93504	0.93504	0.93504	0.93504	0.93504	0.93504	0.93504	(-0.0247)	C.C.=0.98484	
94	0.93504	0.93504	0.93504	0.93504	0.93504	0.93504	0.93504	0.93504	(-0.0247)	C.C.=0.98484
	0.93504	0.93504	0.93504	0.93504	0.93504	0.93504	0.93504	(-0.0247)	C.C.=0.98484	
95	0.93504	0.93504	0.93504	0.93504	0.93504	0.93504	0.93504	0.93504	(-0.0247)	C.C.=0.98484
	0.93504	0.93504	0.93504	0.93504	0.93504	0.93504	0.93504	(-0.0247)	C.C.=0.98484	
96	0.93504	0.93504	0.93504	0.93504	0.93504	0.93504	0.93504	0.93504	(-0.0247)	C.C.=0.98484
	0.93504	0.93504	0.93504	0.93504	0.93504	0.93504	0.93504	(-0.0247)	C.C.=0.98484	
97	0.93504	0.93504	0.93504	0.93504	0.93504	0.93504	0.93504	0.93504	(-0.0247)	C.C.=0.98484
	0.93504	0.93504	0.93504	0.93504	0.93504	0.93504	0.93504	(-0.0247)	C.C.=0.98484	
98	0.93504	0.93504	0.93504	0.93504	0.93504	0.93504	0.93504	0.93504	(-0.0247)	C.C.=0.98484
	0.93504	0.93504	0.93504	0.93504	0.93504	0.93504	0.93504	(-0.0247)	C.C.=0.98484	
99	0.93504	0.93504	0.93504	0.93504	0.93504	0.93504	0.93504	0.93504	(-0.0247)	C.C.=0.98484
	0.93504	0.93504	0.93504	0.93504	0.93504	0.93504	0.93504	(-0.0247)	C.C.=0.98484	

TABLE C.1. SURVIVAL RATIOS' REGRESSION COEFFICIENTS, C, γ, A. (Cont'd.)

SEX	AGE	1950	1961	1966	1968	1974	1979	1984	CONST.	C, γ, A	ALPHA
F	0	0.97007	0.97223	0.97294	0.97210	0.96522	0.96990	0.97016	0.96005	-0.00054	0.10230
F	1	0.97000	0.97000	0.97000	0.97000	0.96500	0.96500	0.96500	0.96501	-0.00000	0.00000
F	2	0.97000	0.97000	0.97000	0.97000	0.96500	0.96500	0.96500	0.96501	-0.00000	0.00000
F	3	0.97000	0.97000	0.97000	0.97000	0.96500	0.96500	0.96500	0.96501	-0.00000	0.00000
F	4	0.97000	0.97000	0.97000	0.97000	0.96500	0.96500	0.96500	0.96501	-0.00000	0.00000
F	5	0.97000	0.97000	0.97000	0.97000	0.96500	0.96500	0.96500	0.96501	-0.00000	0.00000
F	6	0.97000	0.97000	0.97000	0.97000	0.96500	0.96500	0.96500	0.96501	-0.00000	0.00000
F	7	0.97000	0.97000	0.97000	0.97000	0.96500	0.96500	0.96500	0.96501	-0.00000	0.00000
F	8	0.97000	0.97000	0.97000	0.97000	0.96500	0.96500	0.96500	0.96501	-0.00000	0.00000
F	9	0.97000	0.97000	0.97000	0.97000	0.96500	0.96500	0.96500	0.96501	-0.00000	0.00000
F	10	0.97000	0.97000	0.97000	0.97000	0.96500	0.96500	0.96500	0.96501	-0.00000	0.00000
F	11	0.97000	0.97000	0.97000	0.97000	0.96500	0.96500	0.96500	0.96501	-0.00000	0.00000
F	12	0.97000	0.97000	0.97000	0.97000	0.96500	0.96500	0.96500	0.96501	-0.00000	0.00000
F	13	0.97000	0.97000	0.97000	0.97000	0.96500	0.96500	0.96500	0.96501	-0.00000	0.00000
F	14	0.97000	0.97000	0.97000	0.97000	0.96500	0.96500	0.96500	0.96501	-0.00000	0.00000
F	15	0.97000	0.97000	0.97000	0.97000	0.96500	0.96500	0.96500	0.96501	-0.00000	0.00000
F	16	0.97000	0.97000	0.97000	0.97000	0.96500	0.96500	0.96500	0.96501	-0.00000	0.00000
F	17	0.97000	0.97000	0.97000	0.97000	0.96500	0.96500	0.96500	0.96501	-0.00000	0.00000
F	18	0.97000	0.97000	0.97000	0.97000	0.96500	0.96500	0.96500	0.96501	-0.00000	0.00000
F	19	0.97000	0.97000	0.97000	0.97000	0.96500	0.96500	0.96500	0.96501	-0.00000	0.00000
F	20	0.97000	0.97000	0.97000	0.97000	0.96500	0.96500	0.96500	0.96501	-0.00000	0.00000
F	21	0.97000	0.97000	0.97000	0.97000	0.96500	0.96500	0.96500	0.96501	-0.00000	0.00000
F	22	0.97000	0.97000	0.97000	0.97000	0.96500	0.96500	0.96500	0.96501	-0.00000	0.00000
F	23	0.97000	0.97000	0.97000	0.97000	0.96500	0.96500	0.96500	0.96501	-0.00000	0.00000
F	24	0.97000	0.97000	0.97000	0.97000	0.96500	0.96500	0.96500	0.96501	-0.00000	0.00000

TABLE C.1. SURVIVAL RATIOS' REGRESSION COEFFICIENTS, $C_{\gamma,A}$. (Cont'd.)

TABLE C.1. SURVIVAL RATIOS' REGRESSION COEFFICIENTS, C, γ , A. (Cont'd.)

	AGE	1950	1961	1966	1969	1974	1977	1984	CONST.	CATIA	ALPHA
F	50	0.99543	0.99592	0.99595	0.99602	0.99606	0.99610	0.99612	0.99615	-0.00012	0.12530
F	51	0.99542	0.99593	0.99595	0.99601	0.99607	0.99611	0.99612	(-55.87)	0.00000	0.12530
F	52	0.99544	0.99594	0.99596	0.99603	0.99607	0.99613	0.99616	0.99579	-0.00013	0.12530
F	53	0.99546	0.99596	0.99598	0.99604	0.99608	0.99614	0.99617	(-65.87)	0.00000	0.12530
F	54	0.99548	0.99598	0.99600	0.99606	0.99610	0.99616	0.99619	0.99559	-0.00013	0.12530
F	55	0.99550	0.99600	0.99602	0.99608	0.99612	0.99618	0.99621	(-65.87)	0.00000	0.12530
F	56	0.99552	0.99602	0.99604	0.99610	0.99614	0.99620	0.99623	0.99494	-0.00012	0.12530
F	57	0.99554	0.99604	0.99606	0.99612	0.99616	0.99622	0.99625	(-65.87)	0.00000	0.12530
F	58	0.99556	0.99606	0.99608	0.99614	0.99618	0.99624	0.99627	0.99490	-0.00011	0.12530
F	59	0.99558	0.99608	0.99610	0.99616	0.99620	0.99626	0.99629	(-65.87)	0.00000	0.12530
F	60	0.99560	0.99610	0.99612	0.99618	0.99622	0.99628	0.99631	0.99486	-0.00010	0.12530
F	61	0.99562	0.99612	0.99614	0.99620	0.99624	0.99630	0.99633	(-65.87)	0.00000	0.12530
F	62	0.99564	0.99614	0.99616	0.99622	0.99626	0.99632	0.99635	0.99482	-0.00009	0.12530
F	63	0.99566	0.99616	0.99618	0.99624	0.99628	0.99634	0.99637	0.99478	-0.00008	0.12530
F	64	0.99568	0.99618	0.99620	0.99626	0.99630	0.99636	0.99639	(-65.87)	0.00000	0.12530
F	65	0.99570	0.99620	0.99622	0.99628	0.99632	0.99638	0.99641	0.99474	-0.00007	0.12530
F	66	0.99572	0.99622	0.99624	0.99630	0.99634	0.99640	0.99643	(-65.87)	0.00000	0.12530
F	67	0.99574	0.99624	0.99626	0.99632	0.99636	0.99642	0.99645	0.99470	-0.00006	0.12530
F	68	0.99576	0.99626	0.99628	0.99634	0.99638	0.99644	0.99647	(-65.87)	0.00000	0.12530
F	69	0.99578	0.99628	0.99630	0.99636	0.99640	0.99646	0.99649	0.99466	-0.00005	0.12530
F	70	0.99580	0.99630	0.99632	0.99638	0.99642	0.99648	0.99651	(-65.87)	0.00000	0.12530
F	71	0.99582	0.99632	0.99634	0.99640	0.99644	0.99650	0.99653	0.99462	-0.00004	0.12530
F	72	0.99584	0.99634	0.99636	0.99642	0.99646	0.99652	0.99655	(-65.87)	0.00000	0.12530
F	73	0.99586	0.99636	0.99638	0.99644	0.99648	0.99654	0.99657	0.99458	-0.00003	0.12530
F	74	0.99588	0.99638	0.99640	0.99646	0.99650	0.99656	0.99659	(-65.87)	0.00000	0.12530
F	75	0.99590	0.99640	0.99642	0.99648	0.99652	0.99658	0.99661	0.99454	-0.00002	0.12530
F	76	0.99592	0.99642	0.99644	0.99650	0.99654	0.99660	0.99663	(-65.87)	0.00000	0.12530
F	77	0.99594	0.99644	0.99646	0.99652	0.99656	0.99662	0.99665	0.99450	-0.00001	0.12530
F	78	0.99596	0.99646	0.99648	0.99654	0.99658	0.99664	0.99667	(-65.87)	0.00000	0.12530
F	79	0.99598	0.99648	0.99650	0.99656	0.99660	0.99666	0.99669	0.99446	-0.00000	0.12530
F	80	0.99600	0.99650	0.99652	0.99658	0.99662	0.99668	0.99671	(-65.87)	0.00000	0.12530
F	81	0.99602	0.99652	0.99654	0.99660	0.99664	0.99670	0.99673	0.99442	-0.00000	0.12530
F	82	0.99604	0.99654	0.99656	0.99662	0.99666	0.99672	0.99675	(-65.87)	0.00000	0.12530
F	83	0.99606	0.99656	0.99658	0.99664	0.99668	0.99674	0.99677	0.99438	-0.00000	0.12530
F	84	0.99608	0.99658	0.99660	0.99666	0.99670	0.99676	0.99679	(-65.87)	0.00000	0.12530
F	85	0.99610	0.99660	0.99662	0.99668	0.99672	0.99678	0.99681	0.99434	-0.00000	0.12530
F	86	0.99612	0.99662	0.99664	0.99670	0.99674	0.99680	0.99683	(-65.87)	0.00000	0.12530
F	87	0.99614	0.99664	0.99666	0.99672	0.99676	0.99682	0.99685	0.99430	-0.00000	0.12530
F	88	0.99616	0.99666	0.99668	0.99674	0.99678	0.99684	0.99687	(-65.87)	0.00000	0.12530
F	89	0.99618	0.99668	0.99670	0.99676	0.99680	0.99686	0.99689	0.99426	-0.00000	0.12530
F	90	0.99620	0.99670	0.99672	0.99678	0.99682	0.99688	0.99691	(-65.87)	0.00000	0.12530
F	91	0.99622	0.99672	0.99674	0.99680	0.99684	0.99690	0.99693	0.99422	-0.00000	0.12530
F	92	0.99624	0.99674	0.99676	0.99682	0.99686	0.99692	0.99695	(-65.87)	0.00000	0.12530
F	93	0.99626	0.99676	0.99678	0.99684	0.99688	0.99694	0.99697	0.99418	-0.00000	0.12530
F	94	0.99628	0.99678	0.99680	0.99686	0.99690	0.99696	0.99699	(-65.87)	0.00000	0.12530
F	95	0.99630	0.99680	0.99682	0.99688	0.99692	0.99698	0.99701	0.99414	-0.00000	0.12530
F	96	0.99632	0.99682	0.99684	0.99690	0.99694	0.99700	0.99703	(-65.87)	0.00000	0.12530
F	97	0.99634	0.99684	0.99686	0.99692	0.99696	0.99702	0.99705	0.99410	-0.00000	0.12530
F	98	0.99636	0.99686	0.99688	0.99694	0.99698	0.99704	0.99707	(-65.87)	0.00000	0.12530
F	99	0.99638	0.99688	0.99690	0.99696	0.99700	0.99706	0.99709	0.99406	-0.00000	0.12530
F	100	0.99640	0.99690	0.99692	0.99698	0.99702	0.99708	0.99711	(-65.87)	0.00000	0.12530

TABLE C.1. SURVIVAL RATIOS' REGRESSION COEFFICIENTS' C, γ , A. (Cont'd.)

AGE	1956	1961	1966	1974	1979	1984	CONST.	GAMMA	ALPHA
75	0.95100	0.95570	0.95676	0.95696	0.95716	0.95926	0.95931	-0.00393	0.10072
	0.95124	0.95110	0.95000	0.95002	0.95020	0.95026	(-0.0100)	(-0.0100)	0.00074
76	0.95267	0.95081	0.95020	0.95020	0.95020	0.95026	0.95055	-0.00119	0.00000
	0.95267	0.95081	0.95020	0.95020	0.95020	0.95026	(-0.0100)	(-0.0100)	0.00074
77	0.95354	0.95081	0.95020	0.95020	0.95020	0.95026	0.95135	-0.00393	0.00000
	0.95354	0.95081	0.95020	0.95020	0.95020	0.95026	(-0.0100)	(-0.0100)	0.00074
78	0.95441	0.95081	0.95020	0.95020	0.95020	0.95026	0.95605	-0.00393	0.00000
	0.95441	0.95081	0.95020	0.95020	0.95020	0.95026	(-0.0100)	(-0.0100)	0.00074
79	0.95528	0.95081	0.95020	0.95020	0.95020	0.95026	0.95605	-0.00393	0.00000
	0.95528	0.95081	0.95020	0.95020	0.95020	0.95026	(-0.0100)	(-0.0100)	0.00074
80	0.95615	0.95081	0.95020	0.95020	0.95020	0.95026	0.95605	-0.00393	0.00000
	0.95615	0.95081	0.95020	0.95020	0.95020	0.95026	(-0.0100)	(-0.0100)	0.00074
81	0.95702	0.95081	0.95020	0.95020	0.95020	0.95026	0.95605	-0.00393	0.00000
	0.95702	0.95081	0.95020	0.95020	0.95020	0.95026	(-0.0100)	(-0.0100)	0.00074
82	0.95789	0.95081	0.95020	0.95020	0.95020	0.95026	0.95605	-0.00393	0.00000
	0.95789	0.95081	0.95020	0.95020	0.95020	0.95026	(-0.0100)	(-0.0100)	0.00074
83	0.95876	0.95081	0.95020	0.95020	0.95020	0.95026	0.95605	-0.00393	0.00000
	0.95876	0.95081	0.95020	0.95020	0.95020	0.95026	(-0.0100)	(-0.0100)	0.00074
84	0.95963	0.95081	0.95020	0.95020	0.95020	0.95026	0.95605	-0.00393	0.00000
	0.95963	0.95081	0.95020	0.95020	0.95020	0.95026	(-0.0100)	(-0.0100)	0.00074
85	0.96050	0.95081	0.95020	0.95020	0.95020	0.95026	0.95605	-0.00393	0.00000
	0.96050	0.95081	0.95020	0.95020	0.95020	0.95026	(-0.0100)	(-0.0100)	0.00074
86	0.96137	0.95081	0.95020	0.95020	0.95020	0.95026	0.95605	-0.00393	0.00000
	0.96137	0.95081	0.95020	0.95020	0.95020	0.95026	(-0.0100)	(-0.0100)	0.00074
87	0.96224	0.95081	0.95020	0.95020	0.95020	0.95026	0.95605	-0.00393	0.00000
	0.96224	0.95081	0.95020	0.95020	0.95020	0.95026	(-0.0100)	(-0.0100)	0.00074
88	0.96311	0.95081	0.95020	0.95020	0.95020	0.95026	0.95605	-0.00393	0.00000
	0.96311	0.95081	0.95020	0.95020	0.95020	0.95026	(-0.0100)	(-0.0100)	0.00074
89	0.96398	0.95081	0.95020	0.95020	0.95020	0.95026	0.95605	-0.00393	0.00000
	0.96398	0.95081	0.95020	0.95020	0.95020	0.95026	(-0.0100)	(-0.0100)	0.00074
90	0.96485	0.95081	0.95020	0.95020	0.95020	0.95026	0.95605	-0.00393	0.00000
	0.96485	0.95081	0.95020	0.95020	0.95020	0.95026	(-0.0100)	(-0.0100)	0.00074
91	0.96572	0.95081	0.95020	0.95020	0.95020	0.95026	0.95605	-0.00393	0.00000
	0.96572	0.95081	0.95020	0.95020	0.95020	0.95026	(-0.0100)	(-0.0100)	0.00074
92	0.96659	0.95081	0.95020	0.95020	0.95020	0.95026	0.95605	-0.00393	0.00000
	0.96659	0.95081	0.95020	0.95020	0.95020	0.95026	(-0.0100)	(-0.0100)	0.00074
93	0.96746	0.95081	0.95020	0.95020	0.95020	0.95026	0.95605	-0.00393	0.00000
	0.96746	0.95081	0.95020	0.95020	0.95020	0.95026	(-0.0100)	(-0.0100)	0.00074
94	0.96833	0.95081	0.95020	0.95020	0.95020	0.95026	0.95605	-0.00393	0.00000
	0.96833	0.95081	0.95020	0.95020	0.95020	0.95026	(-0.0100)	(-0.0100)	0.00074
95	0.96920	0.95081	0.95020	0.95020	0.95020	0.95026	0.95605	-0.00393	0.00000
	0.96920	0.95081	0.95020	0.95020	0.95020	0.95026	(-0.0100)	(-0.0100)	0.00074
96	0.97007	0.95081	0.95020	0.95020	0.95020	0.95026	0.95605	-0.00393	0.00000
	0.97007	0.95081	0.95020	0.95020	0.95020	0.95026	(-0.0100)	(-0.0100)	0.00074
97	0.97094	0.95081	0.95020	0.95020	0.95020	0.95026	0.95605	-0.00393	0.00000
	0.97094	0.95081	0.95020	0.95020	0.95020	0.95026	(-0.0100)	(-0.0100)	0.00074
98	0.97181	0.95081	0.95020	0.95020	0.95020	0.95026	0.95605	-0.00393	0.00000
	0.97181	0.95081	0.95020	0.95020	0.95020	0.95026	(-0.0100)	(-0.0100)	0.00074
99	0.97268	0.95081	0.95020	0.95020	0.95020	0.95026	0.95605	-0.00393	0.00000
	0.97268	0.95081	0.95020	0.95020	0.95020	0.95026	(-0.0100)	(-0.0100)	0.00074
100	0.97355	0.95081	0.95020	0.95020	0.95020	0.95026	0.95605	-0.00393	0.00000
	0.97355	0.95081	0.95020	0.95020	0.95020	0.95026	(-0.0100)	(-0.0100)	0.00074

C.1.2. Emigration Process Probabilities

The method used to estimate the emigration probabilities was outlined in section 4.2.2. It will be recalled that the probabilities are estimated from statistics for the period April 1, 1968 to April 1, 1969, and consist of ratios of emigrating individuals to total population. These ratios are stratified by age, sex, and marital status, and are presented in Table C.3., which follows.

TABLE C.3. PROBABILITIES FOR EMIGRATION BY AGE, MARITAL STATUS AND SEX OF HEAD OF FAM. UNIT.

---NON-MARRIED---MARRIED---

AGE	NON-MARRIED		MARRIED		ROW TOTALS
	MALE	FEMALE	MALE	FEMALE	
00-04	0.002840	0.00	0.002960	0.00	
05-09	0.001950	0.001160	0.002180	0.007720	
10-14	0.003880	0.002440	0.006180	0.006740	
15-19	0.011680	0.004690	0.015810	0.005340	
20-24	0.011550	0.005460	0.012350	0.004470	
25-29	0.006860	0.004710	0.006620	0.003600	
30-34	0.003360	0.003250	0.005040	0.002430	
35-39	0.002210	0.002500	0.003060	0.001920	
40-44	0.001530	0.001800	0.004020	0.001530	
45-49	0.001090	0.001510	0.002470	0.001300	
50-54	0.000210	0.001060	0.002280	0.000870	
55-59	0.000720	0.001240	0.001240	0.001250	
60-64	0.000810	0.000560	0.000920	0.000360	
65-69					
70+					

C.1.3. Birth Process Probabilities

These probabilities are provided by L. Stone, and are listed in Table C.4. They are given by single years of age from 14 to 48 (inclusive), by birth order, and by legitimate-illegitimate cases.

LEGITIMATE - ILL - BIRTH 1 BIRTH 2 BIRTH 3 BIRTH 4 BIRTH 5 BIRTH 6+ BIRTH 6+ TOTAL

BIRTH	1	2	3	4	5	6+	BIRTH	1	2	3	4	5	6+	BIRTH	1	2	3	4	5	6+	TOTAL
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.481800	0.236200	0.212100	0.269800	0.100000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.469000	0.240700	0.211400	0.265800	0.138700	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.451100	0.243100	0.210700	0.261100	0.187700	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.422900	0.249100	0.210000	0.255700	0.223000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.393500	0.251100	0.209000	0.249000	0.249900	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.353300	0.256000	0.207900	0.233600	0.254300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.324900	0.257000	0.205300	0.233900	0.273700	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.296600	0.259700	0.202700	0.214200	0.293100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.274300	0.250400	0.192000	0.200900	0.271800	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.252000	0.241100	0.181400	0.187600	0.250600	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.231600	0.237900	0.169600	0.173200	0.208500	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.219100	0.224500	0.159000	0.160000	0.189200	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.198000	0.211200	0.148500	0.146800	0.169900	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.176000	0.189000	0.133800	0.132800	0.153000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.143900	0.167500	0.119100	0.118700	0.136200	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.121900	0.138900	0.099900	0.099900	0.113400	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.101700	0.115700	0.084400	0.086500	0.097400	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.093200	0.095700	0.070500	0.073200	0.081300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.078400	0.078300	0.061900	0.065100	0.073600	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.055800	0.067200	0.053300	0.057100	0.065800	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.044500	0.054500	0.042700	0.048600	0.060200	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.031700	0.041200	0.034500	0.040700	0.052200	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.028700	0.031200	0.027100	0.032800	0.044100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.022700	0.023600	0.023500	0.027000	0.037900	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.014900	0.019500	0.017800	0.022300	0.031700	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.009000	0.013000	0.011000	0.015100	0.022200	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.006100	0.008500	0.007600	0.011000	0.016700	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.004300	0.004900	0.004200	0.006800	0.011300	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.003200	0.003400	0.003400	0.005500	0.009200	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.001900	0.002700	0.002600	0.004300	0.007100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.000600	0.000800	0.001100	0.001700	0.002700	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.000300	0.000400	0.000600	0.001100	0.001500	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.000100	0.000100	0.000200	0.000500	0.000500	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

These probabilities are again supplied by L. Stone and are given by single years of age (15 to 59) and sex. However, for 60 years of age and over we were able to obtain some estimates of divorce rates from 1968 unpublished statistics of the Vital Statistics Division of Statistics Canada. These enabled us to enlarge our age dimension up to age 70 and over. Table C.5.' contains these probabilities.

POW
TOTALS

MALE FEMALE

0.0	0.0
0.0	0.002590
0.001980	0.004280
0.004470	0.006270
0.007050	0.007860
0.011160	0.008320
0.014540	0.010620
0.017930	0.012920
0.018270	0.012850
0.018600	0.012790
0.017440	0.011560
0.017750	0.011460
0.018060	0.011430
0.017600	0.010980
0.017150	0.010530
0.016340	0.009760
0.015900	0.009330
0.015460	0.008890
0.014920	0.008640
0.014380	0.008380
0.013740	0.008250
0.013200	0.007980
0.012660	0.007720
0.012190	0.007420
0.011710	0.007120
0.011190	0.006970
0.010720	0.006490
0.010240	0.006190
0.009860	0.005910
0.009480	0.005630
0.009220	0.005700
0.008720	0.005400
0.008420	0.005000
0.008020	0.004400
0.007620	0.003500

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0.006940	0.003500
0.005700	0.002800
0.004620	0.002240
0.003390	0.001540
0.002390	0.001260
0.001700	0.000840
0.001080	0.000420
0.004520	0.003630
0.004520	0.003630
0.003340	0.002310
0.003340	0.002310
0.003340	0.002310
0.003340	0.002310
0.003080	0.002700
0.003080	0.002700
0.003080	0.002700
0.003080	0.002700
0.001080	0.000710
*****	*****

70+

C.1.5. Marriage Process I Parameters

The parameters of this process consist of probabilities that an individual of certain characteristics will get married within a period of a year.

These probabilities are estimated by five year age brackets, sex, region, and marital status (i.e., single or "other"). The original data was obtained from Vital Statistics Division of Statistics Canada for the year 1971. Table C.6 which follows contains these probabilities.

C.1.6. Marriage Process II Parameters

The parameters of this process are used to match "marriageable" individuals into couples. These fall into two sets. The first gives the probability that an individual will choose a mate in age bracket $a = 15-19, 20-24, \dots$, conditional on his/her sex and age bracket $a' = 15-19, 20-24, \dots$. The second gives the probability that an individual will choose a mate of education $e =$ under Grade 9, Grade 9 - Grade 13, College or University, conditional on his/her sex and education. These two sets are listed in Tables C.7.a and C.7.b., respectively. The first set was estimated from Vital Statistics unpublished data for 1971 while the second set was estimated from the distribution of already existing married couples in the Consumer Finance Survey Tape for the year 1967. It is fair to say that since the education probability distributions were computed by using the existing stock of married couples, rather than flows, i.e., new marriages within a period of a year, they constitute an educated guess, rather than an estimate of the desired probabilities.

THE PROBABILITY OF A SINGLE PERSON TO GET MARRIED.

[illegible]

ROW
TOTALS

Grade<9	Gr.9-13	COLLEGE	
*****	*****	*****	*****
0.206120	0.672920	0.101740	
0.025740	0.655910	0.256020	
0.004000	0.221830	0.450950	
*****	*****	*****	*****

Grade - 9
Gr. 9 - 13
COLLEGE

ROW
TOTALS

Grade<9 Gr. 9-13 COLLEGE

Grade - 9 0.722080 0.245620 0.032300
 Gr. 9 -13 0.211540 0.604920 0.181540
 COLLEGE 0.088240 0.331490 0.580270

C.1.7. Family Independence Probabilities

The estimation procedure used to determine the probabilities that a dependent individual will become independent and leave home is described in section 4.2.7. The estimation is based on inferences made from a simple model in which population is kept constant, i.e., in which mortality, immigration, and emigration are ignored. Table C.8 contains the results of the analysis presented in section 4.2.7. To increase accuracy, the counts of individuals were grouped into two year age brackets as shown in the table. The consequence of this is that the probabilities computed by means of formula (12) of section 4.2.7., are the probabilities that individuals will become independent within a period of two years. These are called A_2 probabilities. If A_1 are the corresponding probabilities that individuals will become independent within a period of one year it is easy to verify that:

$$(1-A_1)^2 = 1-A_2 \text{ or, } \underline{\underline{A_1 = 1 - \sqrt{1-A_2}}}$$

These results are given in the last column of table C.8. Finally, as was mentioned in section 4.2.7., our model failed to provide reasonable estimates for ages over 26. For this reason a probability of 5% is assumed for both sexes in the 26 and over age group.

TABLE C.8. ESTIMATES OF FAMILY INDEPENDENCE PROBABILITIES

MALE

Age	Independent	Dependent	Married	A ₂	A ₁
17-18	1,908	36,826	340	.08165	.04169
19-20	4,536	29,886	2,488	.12356	.06382
21-22	5,671	15,663	7,249	.08972	.04591
23-24	6,033	10,341	17,804	.15400	.08022
25-26	4,167	3,579	20,432	.03454	.01742

FEMALE

Age	Independent	Dependent	Married	A ₂	A ₁
17-18	1,456	32,246	2,535	.12276	.06339
19-20	4,742	20,384	8,345	.10321	.05300
21-22	5,028	10,125	19,342	.08109	.04140
23-24	3,470	4,571	25,648	.12667	.06548
25-26	2,890	2,555	25,991	.23726	.12665

Source of Data: Consumer Finance 1969 Survey Individuals' Tape.

C.1.8. Interprovincial Migration Process Parameters

As explained in section 4.2.8 the probabilities describing the interprovincial migration process consist of:

- (i) Probabilities $q_1(a,i,r)$ that an individual of age a , income i , and who resides in region r will stay in his present region of residence. These probabilities are given in table C.8.a.;
- (ii) Probabilities $q_2(r,r')$ that an individual who resides in region r will move to region r' conditional that he/she moves out of his/her present region of residence. This conditional transition matrix is listed in table C.8.b.;
- (iii) Probabilities $q_3(p_a,p)$ that an individual residing in province p will move to the Atlantic province p_a , conditional on the fact that he/she moves to the Maritimes. These conditional transition probabilities are listed in table C.8.c;
- (iv) Probabilities $q_4(p_w,p)$ which are the same as (iii) above for the Prairies provinces' transition. These probabilities are listed in table C.8.d.

Clearly, the above sets of probabilities imply the existence of transition matrices from province to province which are conditional on income and age of the individuals. These transition matrices are listed as tables C.9.1, C.9.2,, C.9.25.

AGE	0-1499	\$1500 -2999	\$3000 -4499	\$4500 -6999	7000+	ROW TOTALS
*****	*****	*****	*****	*****	*****	*****

MARITIMES

14-25	0.931000	0.923000	0.950100	0.959400	0.958900	
25-35	0.943400	0.960400	0.977400	0.982500	0.969600	
36-45	0.984700	0.986300	0.989600	0.988400	0.987200	
46-64	0.988900	0.992500	0.993900	0.993000	0.995200	
65+	1.000000	0.992000	1.000000	1.000000	1.000000	

QUEBEC

14-25	0.975100	0.984200	0.984500	0.981800	0.972700	
25-35	0.981400	0.986500	0.990000	0.988300	0.984700	
36-45	0.992100	0.993700	0.995000	0.993100	0.989000	
46-64	0.995700	0.998400	0.997000	0.995800	0.991000	
65+	0.990300	0.996900	0.997500	0.996900	0.989500	

ONTARIO

14-25	0.973800	0.970400	0.974800	0.980200	0.984800	
25-35	0.987500	0.987100	0.987300	0.988100	0.984700	
36-45	0.995100	0.992800	0.994100	0.994500	0.995700	
46-64	0.995400	0.997000	0.997200	0.996800	0.996600	
65+	0.995800	0.996700	0.998000	0.996000	0.996800	

PRAIRIES

14-25	0.954100	0.949700	0.958100	0.957200	0.960400	
25-35	0.968700	0.976500	0.968400	0.976700	0.973300	
36-45	0.988300	0.989800	0.981500	0.983900	0.982000	
46-64	0.989800	0.993600	0.990400	0.992600	0.988000	
65+	1.000000	0.992700	0.997500	0.992800	0.988200	

BRITISH COLUMBIA

14-25	0.944100	0.953100	0.953700	0.965000	0.982800	
25-35	0.954800	0.968100	0.971400	0.973100	0.981400	
36-45	0.974500	0.983400	0.984500	0.989700	0.995700	
46-64	0.989700	0.989700	0.990900	0.998300	0.996500	
65+	1.000000	0.991200	0.987100	0.984500	0.992800	

ROW
TOTALS

	ATLANTIC	QUEBEC	ONTARIO	PRARIES	B.C.	
	*****	*****	*****	*****	*****	*****
ATLANTIC	0.0	0.123080	0.266780	0.045100	0.054940	
QUEBEC	0.126320	0.0	0.253350	0.045100	0.084250	
ONTARIO	0.652630	0.630770	0.0	0.335290	0.344320	
PRARIES	0.108770	0.100000	0.223150	0.0	0.516490	
B.C.	0.112280	0.146150	0.256720	0.574510	0.0	
	*****	*****	*****	*****	*****	*****

RCW
TOTALS

[illegible][illegible][illegible][illegible]

0.466700
0.562500
0.661000
0.760000
0.859000
0.958000
1.057000
1.156000
1.255000
1.354000
1.453000
1.552000
1.651000
1.750000
1.849000
1.948000
2.047000
2.146000
2.245000
2.344000
2.443000
2.542000
2.641000
2.740000
2.839000
2.938000
3.037000
3.136000
3.235000
3.334000
3.433000
3.532000
3.631000
3.730000
3.829000
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ROW
TOTALS

NFLD PEI. N.S. N.R. QUE. ONT. MAN. SASK ALTA R.C. *****

MAN. 0.600000 0.0 0.117600 0.375000 0.282100 0.360900 0.988900 0.008600 0.002900 0.148900
SASK 0.0 0.0 0.117600 0.0 0.128200 0.135300 0.003400 0.971600 0.003700 0.170200
ALTA 0.400000 1.000000 0.764800 0.625000 0.589700 0.503800 0.007700 0.019800 0.993400 0.680900

INTERPROVINCIAL MIGRATION TRANSITION MATRIX
FOR INCOMES \$0-\$1499 14-24 YRS

MOVING TO										
	NFND	P.E.I.	N.S.C.	N.BRUNS	QUEBEC	ONTARIO	MANITOBA	SASKWAN	ALBERTA	B.C.
NFND	0.922714	0.000000	0.006238	0.002048	0.008716	0.045031	0.004503	0.000000	0.003002	0.007747
P.E.I.	0.000000	0.912194	0.015082	0.003724	0.008716	0.045031	0.000000	0.000000	0.007505	0.007747
N.S.C.	0.001982	0.001490	0.924762	0.002886	0.008716	0.045031	0.000883	0.000883	0.005740	0.007747
N.BRUNS	0.000638	0.000279	0.005400	0.924483	0.003716	0.045031	0.002814	0.000000	0.004691	0.007747
QUEBEC	0.000447	0.000128	0.001086	0.001405	0.975100	0.015706	0.000702	0.000319	0.001468	0.003639
ONTARIO	0.001671	0.000572	0.003121	0.001626	0.006638	0.973800	0.002110	0.000791	0.002945	0.006726
MANITOBA	0.000559	0.000000	0.000000	0.001511	0.002070	0.015390	0.943509	0.003244	0.007347	0.026370
SASKWAN	0.000690	0.000000	0.001380	0.000000	0.002070	0.015390	0.008205	0.927004	0.018891	0.026370
ALBERTA	0.000259	0.000000	0.001164	0.000647	0.002070	0.015390	0.002767	0.003530	0.947803	0.026370
B.C.	0.000000	0.000409	0.001453	0.001228	0.004710	0.019247	0.004299	0.004914	0.019659	0.944100

INTERPROVINCIAL MIGRATION, TRANSITION AND AGES 25-35 YRS
FOR INCOMES \$0-\$1499

MOVING TO										
	NFND	P.E.I.	N.S.C.	N.BRUNS	QUEBEC	ONTARIO	MANITOBA	SASKWAN	ALBERTA	B.C.
NFND	C.935004	0.000000	0.006321	0.002075	0.007150	0.036939	0.003694	0.000000	0.002463	0.006355
P.E.I.	0.000000	0.924343	0.015283	0.003774	0.007150	0.036939	0.000000	0.000000	0.006156	0.006355
N.S.C.	0.001887	0.001509	0.937079	0.002925	0.007150	0.036939	0.000724	0.000724	0.004708	0.006355
N.BRUNS	0.000849	0.000283	0.005472	0.936796	0.007150	0.036939	0.002309	0.000000	0.003848	0.006355
QUEBEC	0.000034	0.000095	0.000811	0.001049	0.981400	0.011732	0.000525	0.000238	0.001097	0.002718
ONTARIO	0.0000797	0.000273	0.001489	0.000776	0.003167	0.987500	0.001007	0.000377	0.001405	0.003209
MANITOBA	0.0000381	0.000000	0.000000	0.001030	0.001412	0.010495	0.957947	0.003294	0.007459	0.017982
SASKWAN	0.0000470	0.000000	0.0000941	0.000000	0.001412	0.010495	0.008331	0.941189	0.019180	0.017982
ALBERTA	0.0000176	0.000000	0.000794	0.000441	0.001412	0.010495	0.002809	0.003584	0.962307	0.017982
B.C.	0.000000	0.0000331	0.001159	0.000993	0.003808	0.015563	0.003476	0.003973	0.015896	0.954800

INTERPROVINCIAL MIGRATION TRANSITION MATRIX
FOR INCOMES BC-\$1499 AND AGE S 30-45 YES

MOVING TO										
-----> NFND P.E.I. N.B.C. N.BRUNS QUEBEC ONTARIO MANITOBA SASKWAN ALBERTA B.C.										
NFND	0.975936	0.000000	0.006598	0.002166	0.001933	0.009985	0.000999	0.000000	0.000666	0.001718
P.E.I.	0.000000	0.964809	0.015952	0.003939	0.001933	0.009985	0.000000	0.000000	0.001664	0.001718
N.B.C.	0.001969	0.001576	0.978102	0.003053	0.001933	0.009985	0.000196	0.000196	0.001273	0.001718
N.BRUNS	0.000886	0.000295	0.005711	0.977807	0.001933	0.009985	0.000624	0.000000	0.001040	0.001718
QUEBEC	0.000142	0.000041	0.000344	0.000446	0.992100	0.004983	0.000223	0.000101	0.000466	0.001155
ONTARIO	0.000312	0.000107	0.000584	0.000304	0.001241	0.995100	0.000395	0.000143	0.000551	0.001258
MANITOBA	0.000142	0.000000	0.000000	0.000385	0.000528	0.003923	0.977330	0.003360	0.007610	0.006722
SASKWAN	0.000176	0.000000	0.000352	0.000000	0.000528	0.003923	0.008499	0.960232	0.019568	0.006722
ALBERTA	0.000066	0.000000	0.000297	0.000165	0.000528	0.003923	0.002866	0.003657	0.981777	0.006722
B.C.	0.000000	0.000187	0.000654	0.000560	0.002148	0.008780	0.001961	0.002242	0.008968	0.974500

INTERPROVINCIAL MIGRATION TRANSITION MATRIX FOR INCOMES \$0-\$1499 AND AGES 46-64 YRS			
MOVING TO			
	NFND	P.E.I.	N.S.C.
		QUEBEC	ONTARIO
			MANITOBA
			SASKWAN
			ALBERTA
			B.C.
NFND	0.980099	0.000000	0.006626
P.E.I.	0.000000	0.968924	0.016020
N.S.C.	0.001978	0.001582	0.982274
N.BRUNS	0.000890	0.000297	0.005736
QUEBEC	0.000077	0.000022	0.000187
ONTARIO	0.000293	0.000100	0.000548
MANITOBA	0.000124	0.000000	0.000000
SASKWAN	0.000153	0.000000	0.000307
ALBERTA	0.000058	0.000000	0.000259
B.C.	0.000000	0.000075	0.000264

INTERPROVINCIAL MIGRATION TRANSITION MATRIX
FOR INCOMES \$0-\$1499 AND AGES

MOVING TO -----> NFND										P.E.I.	N.S.C.	N.BRUNS	QUEBEC	ONTARIO	MANITOBA	SASKWAN	ALBERTA	B.C.
NFND	0.991100	0.000000	0.000000	0.002200	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
P.E.I.	0.000000	0.979800	0.016200	0.004000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
N.S.C.	0.002000	0.001600	0.993300	0.003100	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
N.BRUNS	0.000900	0.000300	0.005800	0.993000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
QUEBEC	0.000174	0.000050	0.000423	0.000547	0.990300	0.006118	0.000274	0.000124	0.000572	0.001418								
ONTARIO	0.000208	0.000092	0.000500	0.000261	0.001064	0.995800	0.000338	0.000127	0.000472	0.001078								
MANITOBA	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.988900	0.003400	0.007700	0.000000								
SASKWAN	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.008600	0.971600	0.019800	0.000000								
ALBERTA	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.002900	0.003700	0.993400	0.000000								
B.C.	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	1.000000								

MOVING TO										
-----> NFND P.E.I. N.S.C. N.BRUNS QUEBEC ONTARIO MANITOBA SASKWAN ALBERTA B.C.										
NFND	0.914785	0.000000	0.006184	0.002031	0.009727	0.050253	0.005025	0.000000	0.003350	0.008546
P.E.I.	0.000000	0.904355	0.014953	0.003692	0.009727	0.050253	0.000000	0.000000	0.008375	0.008646
N.S.C.	0.001846	0.001477	0.916816	0.002861	0.009727	0.050253	0.000985	0.000985	0.006405	0.008646
N.BRUNS	0.000831	0.000277	0.005353	0.916539	0.009727	0.050253	0.003141	0.000000	0.005235	0.008646
QUEBEC	0.000234	0.000081	0.000689	0.000891	0.984200	0.009966	0.000446	0.000203	0.000932	0.002309
ONTARIO	0.001887	0.000646	0.003526	0.001838	0.007499	0.970400	0.002384	0.000894	0.003328	0.007599
MANITOBA	0.000613	0.000000	0.000000	0.001656	0.002269	0.016865	0.939158	0.003229	0.007313	0.028898
SASKWAN	0.000750	0.000000	0.001512	0.000000	0.002269	0.016865	0.008167	0.922728	0.018804	0.028898
ALBERTA	0.000284	0.000000	0.001276	0.000709	0.002269	0.016865	0.002754	0.003514	0.943432	0.028898
B.C.	0.000000	0.000343	0.001203	0.001031	0.003951	0.016149	0.003607	0.004123	0.016494	0.953100

INTERPROVINCIAL MIGRATION TRANSITION MATRIX
FOR INCOMES \$1500-\$2999 AND AGES 25-35 YRS

MOVING TO										
-----> N.F.N.D. P.E.I. N.S.C. N.B.R.U.N.S. Q.U.E.B.E.C. O.N.T.A.R.I.O. M.A.N.I.T.O.B.A. S.A.S.K.W.A.N. A.L.B.E.R.T.A. B.C.										
N.F.N.D.	0.951852	0.000000	0.006435	0.002113	0.005002	0.025844	0.002584	0.000000	0.001723	0.004446
P.E.I.	0.000000	0.941000	0.015558	0.003842	0.005002	0.025844	0.000000	0.000000	0.004307	0.004446
N.S.C.	0.001921	0.001537	0.953965	0.002977	0.005002	0.025844	0.000507	0.000507	0.003294	0.004446
N.B.R.U.N.S.	0.000864	0.000288	0.005570	0.953677	0.005002	0.025844	0.001615	0.000000	0.002692	0.004446
Q.U.E.B.E.C.	0.000242	0.000069	0.000589	0.000762	0.986500	0.003515	0.000381	0.000173	0.000796	0.001973
O.N.T.A.R.I.O.	0.000823	0.000282	0.001537	0.000801	0.003268	0.987100	0.001039	0.000389	0.001450	0.003312
M.A.N.I.T.O.B.A.	0.000286	0.000000	0.000000	0.000774	0.001060	0.007379	0.965661	0.003320	0.007519	0.013501
S.A.S.K.W.A.N.	0.000353	0.000000	0.000707	0.000000	0.001060	0.007879	0.008398	0.948767	0.019335	0.013501
A.L.B.E.R.T.A.	0.000132	0.000000	0.000596	0.000331	0.001060	0.007879	0.002832	0.003613	0.970055	0.013501
B.C.	0.000000	0.000234	0.000818	0.000701	0.002688	0.010984	0.002453	0.002804	0.011219	0.968100

MOVING TO									
-----> NEND									
	P.E.I.	N.S.C.	N.BRUNS	QUEBEC	ONTARIO	MANITOBA	SASKWAN	ALBERTA	B.C.
NEND	0.977522	0.000000	0.006608	0.002170	0.001731	0.008941	0.000834	0.000000	0.000595
P.E.I.	0.000000	0.966377	0.015978	0.003945	0.001731	0.008941	0.000000	0.000000	0.001490
N.S.C.	0.001973	0.001578	0.979692	0.003058	0.001731	0.008941	0.000175	0.000175	0.001140
N.BRUNS	0.000885	0.000296	0.005721	0.979396	0.001731	0.008941	0.000559	0.000000	0.000931
QUEBEC	0.000113	0.000032	0.000275	0.000355	0.993700	0.003974	0.000173	0.000081	0.000372
ONTARIO	0.000459	0.000157	0.000858	0.000447	0.001824	0.992800	0.000580	0.000217	0.000809
MANITOBA	0.000124	0.000000	0.000000	0.000336	0.000460	0.003420	0.978813	0.003365	0.007621
SASKWAN	0.000153	0.000000	0.000307	0.000000	0.000460	0.003420	0.002512	0.961090	0.019598
ALBERTA	0.000058	0.000000	0.000259	0.000144	0.000460	0.003420	0.002870	0.003662	0.983207
B.C.	0.000000	0.000048	0.000169	0.000145	0.000556	0.002273	0.000508	0.000580	0.002321

INTERPROVINCIAL MIGRATION TRANSITION MATRIX
FOR INCOMES \$1500-\$2999 AND AGES 46-64 YRS

MOVING TO										
-----> NFND P.E.I. N.S.C. N.BRUNS QUEBEC ONTARIO MANITOBA SASKWAN ALBERTA B.C.										
-----> NFND P.E.I. N.S.C. N.BRUNS QUEBEC ONTARIO MANITOBA SASKWAN ALBERTA B.C.										
NFND	0.983667	0.000000	0.006650	0.002184	0.000947	0.004895	0.000489	0.000000	0.000326	0.000842
P.E.I.	0.000000	0.972451	0.016079	0.003970	0.000947	0.004895	0.000000	0.000000	0.000816	0.000842
N.S.C.	0.001985	0.001588	0.985850	0.003077	0.000947	0.004895	0.000096	0.000096	0.000624	0.000842
N.BRUNS	0.000893	0.000298	0.005756	0.985552	0.000947	0.004895	0.000306	0.000000	0.000510	0.000842
QUEBEC	0.000029	0.000008	0.000070	0.000090	0.998400	0.001009	0.000045	0.000021	0.000094	0.000234
ONTARIO	0.000191	0.000065	0.000357	0.000186	0.000760	0.997000	0.000242	0.000091	0.000337	0.000770
MANITOBA	0.000079	0.000000	0.000000	0.000211	0.000289	0.002146	0.982571	0.003378	0.007651	0.003677
SASKWAN	0.000096	0.000000	0.000192	0.000000	0.000289	0.002146	0.008545	0.965382	0.019673	0.003677
ALBERTA	0.000036	0.000000	0.000162	0.000090	0.000289	0.002146	0.002881	0.003676	0.987042	0.003677
B.C.	0.000000	0.000075	0.000264	0.000226	0.000868	0.003547	0.000792	0.000905	0.003622	0.989700

INTERPROVINCIAL MIGRATION TRANSITION MATRIX
FOR INCOMES \$1500-\$2999 AND AGES 65+ OVER YRS

MOVING TO										
----->										
	NFND	P.E.I.	N.S.C.	N.BRUNS	QUEBEC	ONTARIO	MANITOBA	SASKWAN	ALBERTA	B.C.
NFND	0.983171	0.000000	0.006646	0.002182	0.001011	0.005221	0.000522	0.000000	0.000348	0.000898
P.E.I.	0.000000	0.971962	0.016070	0.003968	0.001011	0.005221	0.000000	0.000000	0.000870	0.000898
N.S.C.	0.001984	0.001587	0.985354	0.003075	0.001011	0.005221	0.000102	0.000102	0.000665	0.000898
N.BRUNS	0.000893	0.000298	0.005754	0.985056	0.001011	0.005221	0.000326	0.000000	0.000544	0.000898
QUEBEC	0.000056	0.000016	0.000135	0.000175	0.996900	0.001955	0.000087	0.000040	0.000183	0.000453
ONTARIO	0.000210	0.000072	0.000393	0.000205	0.000836	0.996700	0.000266	0.000100	0.000371	0.000847
MANITOBA	0.000089	0.000000	0.000000	0.000240	0.000329	0.002448	0.931681	0.003375	0.007644	0.004194
SASKWAN	0.000110	0.000000	0.000219	0.000000	0.000329	0.002448	0.008537	0.964507	0.019655	0.004194
ALBERTA	0.000041	0.000000	0.000185	0.000103	0.000329	0.002448	0.002279	0.003673	0.986148	0.004194
B.C.	0.000000	0.000064	0.000226	0.000193	0.000741	0.003030	0.000677	0.000774	0.003095	0.991200

INTERPROVINCIAL MIGRATION TRANSITION MATRIX
FOR INCOMES \$5000-\$4999 14-24 YRS

MOVING TO									
-----> NFND									
	P.E.I.	N.S.C.	N.BRUNS	QUEBEC	ONTARIO	MANITOBA	SASKWAN	ALBERTA	B.C.
NFND	0.941644	0.000000	0.006366	0.002090	0.006303	0.032566	0.003257	0.000000	0.002171
P.E.I.	0.000000	0.930908	0.015392	0.003800	0.006303	0.032566	0.000000	0.005428	0.005603
N.S.C.	0.001900	0.001520	0.943734	0.002945	0.006303	0.032566	0.000638	0.004151	0.005503
N.BRUNS	0.000855	0.000285	0.005511	0.943449	0.006303	0.032566	0.002035	0.000000	0.003392
QUEBEC	0.000278	0.000080	0.000676	0.000874	0.984500	0.009777	0.000437	0.000199	0.002265
ONTARIO	0.001607	0.000550	0.003002	0.001564	0.006334	0.974200	0.002029	0.000761	0.002833
MANITOBA	0.000510	0.000000	0.000000	0.001379	0.001890	0.014049	0.947465	0.003258	0.007377
SASKWAN	0.000630	0.000000	0.001260	0.000000	0.001890	0.014049	0.008240	0.930390	0.018970
ALBERTA	0.000236	0.000000	0.001063	0.000591	0.001890	0.014049	0.002778	0.003545	0.951777
B.C.	0.000000	0.000339	0.001187	0.001017	0.003901	0.015942	0.003561	0.004070	0.016283

MOVING TO									
-----> NFND									
	P.E.I.	N.S.C.	QUEBEC	ONTARIO	MANITOBA	SASKWAN	ALBERTA	B.C.	
NFND	0.962701	0.000000	0.002150	0.002855	0.014749	0.001475	0.000000	0.000983	0.002538
P.E.I.	0.000000	0.957356	0.015834	0.003910	0.014749	0.000000	0.000000	0.002458	0.002538
N.S.C.	0.001955	0.001564	0.970851	0.003030	0.014749	0.000289	0.000289	0.001880	0.002538
N.BRUNS	0.000830	0.000293	0.005669	0.970558	0.014749	0.000922	0.000000	0.001536	0.002538
QUEBEC	0.000179	0.000051	0.000436	0.000564	0.006308	0.000282	0.000128	0.000590	0.001452
ONTARIO	0.000810	0.000277	0.001513	0.000788	0.003218	0.001023	0.000383	0.001428	0.003260
MANITOBA	0.000335	0.000000	0.000000	0.001040	0.001425	0.957651	0.003293	0.007457	0.018155
SASKWAN	0.000475	0.000000	0.000950	0.000000	0.001425	0.008328	0.940897	0.019174	0.018155
ALBERTA	0.000178	0.000000	0.000802	0.000445	0.001425	0.010595	0.002808	0.003583	0.018155
B.C.	0.000000	0.000209	0.000733	0.000629	0.002410	0.009848	0.002199	0.010058	0.071400

MOVING TO										
	NFND	P.E.I.	N.S.C.	N.BRUNS	QUEBEC	ONTARIO	MANITOBA	SASKWAN	ALBERTA	B.C.
NFND	0.980792	0.000000	0.006630	0.002177	0.001314	0.006787	0.000679	0.000000	0.000452	0.001168
P.E.I.	0.000000	0.989510	0.010032	0.003958	0.001314	0.006787	0.000000	0.000000	0.001131	0.001168
N.S.C.	0.001979	0.001585	0.982970	0.003068	0.001314	0.006787	0.000133	0.000133	0.000865	0.001168
N.BRUNS	0.000891	0.000297	0.005740	0.982673	0.001314	0.006737	0.000424	0.000000	0.000707	0.001168
QUEBEC	0.000090	0.000026	0.000218	0.000282	0.995000	0.003154	0.000141	0.000064	0.000295	0.000731
ONTARIO	0.000376	0.000129	0.000703	0.000366	0.001495	0.994100	0.000475	0.000178	0.000663	0.001515
MANITOBA	0.000225	0.000000	0.000000	0.000609	0.000834	0.006203	0.970605	0.003337	0.007558	0.010628
SASKWAN	0.000278	0.000000	0.000556	0.000000	0.000834	0.006203	0.008441	0.953625	0.019434	0.010628
ALBERTA	0.000104	0.000000	0.000459	0.000261	0.000834	0.006203	0.002846	0.003632	0.975022	0.010628
B.C.	0.000000	0.000114	0.000397	0.000341	0.001306	0.005337	0.001192	0.001363	0.005451	0.984500

INTERPROVINCIAL MIGRATION TRANSITION MATRIX FOR INCOMES \$3000-\$4499										
AND AGES 46-64 YRS										
MOVING TO										
-----> NFND P.E.I. N.S.C. N.BRUNS QUEBEC ONTARIO MANITOBA SASKWAN ALBERTA B.C.										
NFND	0.935034	0.000000	0.000659	0.002187	0.000771	0.003981	0.000398	0.000000	0.000265	0.000685
P.E.I.	0.000000	0.973823	0.016101	0.003976	0.000771	0.003981	0.000000	0.000000	0.000664	0.000685
N.S.C.	0.001988	0.001590	0.987241	0.003081	0.000771	0.003981	0.000078	0.000078	0.000507	0.000685
N.BRUNS	0.000895	0.000298	0.005765	0.986943	0.000771	0.003981	0.000249	0.000000	0.000415	0.000685
QUEBEC	0.000054	0.000015	0.000131	0.000169	0.997000	0.001892	0.000085	0.000038	0.000177	0.000438
ONTARIO	0.000179	0.000061	0.000034	0.000174	0.000709	0.997200	0.000226	0.000085	0.000315	0.000719
MANITOBA	0.000117	0.000000	0.000000	0.000316	0.000433	0.003219	0.979406	0.003367	0.007626	0.005515
SASKWAN	0.000144	0.000000	0.000289	0.000000	0.000433	0.003219	0.008517	0.962273	0.019610	0.005515
ALBERTA	0.000054	0.000000	0.000244	0.000135	0.000433	0.003219	0.002872	0.003664	0.983863	0.005515
B.C.	0.000000	0.000067	0.000233	0.000200	0.000767	0.003133	0.000700	0.000800	0.003200	0.990900

INTERPROVINCIAL MIGRATION TRANSITION MATRIX
FOR INCOMES \$3000-\$4499 AND AGES 058 OVER YRS

MOVING TO												
-----> NFND P.E.I. N.S.C. N.BRUNS QUEBEC ONTARIO MANITOBA SASKWAN ALBERTA B.C.												
NFND	0.991100	0.000000	0.006700	0.002200	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
P.E.I.	0.000000	0.979800	0.015200	0.004000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
N.S.C.	0.002000	0.001600	0.993300	0.003100	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
N.BRUNS	0.000900	0.000300	0.005800	0.993000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
QUEBEC	0.000045	0.000013	0.000109	0.000141	0.997500	0.001577	0.000071	0.000032	0.000147	0.000365		
ONTARIO	0.000128	0.000044	0.000238	0.000124	0.000507	0.998000	0.000161	0.000060	0.000225	0.000513		
MANITOBA	0.000030	0.000000	0.000000	0.000082	0.000113	0.000838	0.986428	0.003392	0.007681	0.001436		
SASKWAN	0.000038	0.000000	0.000075	0.000000	0.000113	0.000838	0.008578	0.969171	0.019751	0.001436		
ALBERTA	0.000014	0.000000	0.000063	0.000035	0.000113	0.000838	0.002893	0.003691	0.990916	0.001436		
B.C.	0.000000	0.000094	0.000331	0.000283	0.001087	0.004442	0.000992	0.001134	0.004537	0.987100		

MOVING TO										
-----> NFND										
P.E.I. N.B. QUEB. ONT. MAN. SASK. ALB. B.C.										
NFND	0.956801	0.000000	0.006428	0.002111	0.005129	0.026497	0.002650	0.000000	0.001766	0.004959
P.E.I.	0.000000	0.940020	0.015542	0.003838	0.005129	0.026497	0.000000	0.000000	0.004416	0.004559
N.B.	0.001919	0.001535	0.952972	0.002974	0.005129	0.026497	0.000519	0.000519	0.003377	0.004559
N.BRUNS	0.000863	0.000288	0.005565	0.952684	0.005129	0.026497	0.001656	0.000000	0.002760	0.004559
QUEBEC	0.000327	0.000093	0.000793	0.001027	0.981800	0.011480	0.000513	0.000233	0.001073	0.002660
ONTARIO	0.001262	0.000432	0.002359	0.001229	0.005016	0.980200	0.001595	0.000598	0.002226	0.005083
MANITOBA	0.000521	0.000000	0.000000	0.001409	0.001930	0.014350	0.946575	0.003255	0.007370	0.002459
SASKWAN	0.000643	0.000000	0.001287	0.000000	0.001930	0.014350	0.008232	0.930016	0.018953	0.002459
ALBERTA	0.000241	0.000000	0.001086	0.000603	0.001930	0.014350	0.002776	0.003542	0.950882	0.002459
B.C.	0.000000	0.000256	0.000897	0.000769	0.002949	0.012051	0.002692	0.003077	0.012309	0.965000

FOR INCOMES AND AGES 25-35 YRS

MOVING TO										
-----> NFND										
P.E.I. N.S.C. N.BRUNS QUEBEC ONTARIO MANITOBA SASKWAN ALBERTA B.C.										
NFND	0.973750	0.000000	0.000503	0.002162	0.002211	0.011421	0.001142	0.000000	0.000761	0.001965
P.E.I.	0.000000	0.962653	0.015917	0.003930	0.002211	0.011421	0.000000	0.000000	0.001903	0.001965
N.S.C.	0.001965	0.001572	0.975917	0.003046	0.002211	0.011421	0.000224	0.000224	0.001456	0.001965
N.BRUNS	0.000884	0.000295	0.005698	0.975622	0.002211	0.011421	0.000714	0.000000	0.001190	0.001965
QUEBEC	0.000210	0.000060	0.000510	0.000660	0.988300	0.007380	0.000330	0.000150	0.000690	0.001710
ONTARIO	0.000759	0.000260	0.001417	0.000739	0.003015	0.988100	0.000958	0.000359	0.001338	0.003055
MANITOBA	0.000284	0.000000	0.000000	0.000767	0.001051	0.007812	0.965859	0.003321	0.007521	0.013386
SASKWAN	0.000350	0.000000	0.000701	0.000000	0.001051	0.007812	0.008400	0.948962	0.019339	0.013386
ALBERTA	0.000131	0.000000	0.000591	0.000328	0.001051	0.007812	0.002832	0.003614	0.970254	0.013386
B.C.	0.000000	0.000197	0.000690	0.000591	0.002266	0.009262	0.002069	0.002365	0.009460	0.973100

MOVING TO > FROM										
	P.E.I.	N.S.C.	N.B.	QUEBEC	ONTARIO	MANITOBA	SASKWAN	ALBERTA	B.C.	
NEW	0.979603	0.000000	0.006622	0.002174	0.001465	0.007571	0.000757	0.000000	0.000505	0.001302
P.E.I.	0.000000	0.968434	0.016012	0.003954	0.001465	0.007571	0.000000	0.000000	0.001262	0.001302
N.S.C.	0.001977	0.001581	0.981778	0.003064	0.001465	0.007571	0.000148	0.000148	0.000965	0.001302
N.B.	0.000890	0.000297	0.005733	0.981481	0.001465	0.007571	0.000073	0.000000	0.000739	0.001302
QUEBEC	0.000124	0.000035	0.000301	0.000389	0.993100	0.004352	0.000195	0.000088	0.000407	0.001008
ONTARIO	0.000351	0.000120	0.000055	0.000341	0.001393	0.994500	0.000443	0.000166	0.000618	0.001412
MANITOBA	0.000196	0.000000	0.000000	0.000530	0.000726	0.005398	0.972979	0.003345	0.007576	0.009250
SASKWAN	0.000242	0.000000	0.000484	0.000000	0.000726	0.005398	0.008462	0.955957	0.019481	0.009950
ALBERTA	0.000091	0.000000	0.000408	0.000227	0.000726	0.005398	0.002853	0.003640	0.977406	0.009250
B.C.	0.000000	0.000075	0.000264	0.000226	0.000868	0.003547	0.000792	0.000905	0.003622	0.989700

MOVING TO									
-----> NFND									
	P.E.I.	N.S.C.	N.BRUNS	QUEBEC	ONTARIO	MANITOBA	SASKWAN	ALBERTA	B.C.
NFND	0.984162	0.000000	0.006553	0.002185	0.000884	0.000457	0.000000	0.000305	0.000786
P.E.I.	0.000000	0.972941	0.016087	0.003972	0.000884	0.000000	0.000000	0.000761	0.000786
N.S.C.	0.001930	0.001039	0.985347	0.003078	0.000884	0.000000	0.000000	0.000582	0.000785
N.BRUNS	0.000894	0.000298	0.005759	0.986049	0.000884	0.000286	0.000000	0.000476	0.000786
QUEBEC	0.000075	0.000022	0.000183	0.000237	0.995800	0.000118	0.000054	0.000248	0.000614
ONTARIO	0.000204	0.000070	0.000381	0.000199	0.000811	0.000258	0.000097	0.000360	0.000822
MANITOBA	0.000090	0.000000	0.000000	0.000244	0.000334	0.981582	0.003375	0.007643	0.004251
SASKWAN	0.000111	0.000000	0.000223	0.000000	0.000334	0.002481	0.904410	0.019653	0.004251
ALBERTA	0.000042	0.000000	0.000188	0.000104	0.000334	0.002481	0.002379	0.003673	0.004251
B.C.	0.000000	0.000012	0.000044	0.000037	0.000143	0.000585	0.000131	0.000598	0.998300

MOVING TO > FROM											
	P.E.I.	N.S.C.	N.BRNS	QUEBEC	ONTARIO	MANITOBA	SASKWAN	ALBERTA	B.C.		
NFND	0.991100	0.000000	0.006700	0.002200	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
P.E.I.	0.000000	0.979800	0.016200	0.004000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
N.S.C.	0.002000	0.001600	0.993300	0.003100	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
N.BRNS	0.000900	0.000300	0.005300	0.993000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
QUEBEC	0.000050	0.000010	0.000135	0.000175	0.996900	0.001955	0.000087	0.000040	0.000183	0.000453	0.001027
ONTARIO	0.000255	0.000087	0.000476	0.000248	0.001013	0.995000	0.000322	0.000121	0.000450	0.001027	0.004136
MANITOBA	0.000088	0.000000	0.000000	0.000237	0.000325	0.002414	0.981780	0.003376	0.007645	0.004136	0.004136
SASKWAN	0.000108	0.000000	0.000216	0.000000	0.000325	0.002414	0.008538	0.964604	0.019657	0.004136	0.004136
ALBERTA	0.000041	0.000000	0.000183	0.000101	0.000325	0.002414	0.002879	0.003673	0.986248	0.004136	0.004136
B.C.	0.000000	0.000114	0.000397	0.000341	0.001306	0.005337	0.001192	0.001363	0.005451	0.984500	0.984500

INTERPROVINCIAL MIGRATION, TRANSITION MAINIX
FOR INCOMES \$7000 & OVER AND AGES 14-24 YRS

MOVING TO
-----> NFND

NFND	0.950366	0.000000	0.006425	0.002110	0.005192	0.026823	0.002682	0.000000	0.001788	0.004615
P.E.I.	0.000000	0.939530	0.015534	0.003836	0.005192	0.026823	0.000000	0.000000	0.004470	0.004615
N.S.C.	0.001918	0.001534	0.952475	0.002973	0.005192	0.026823	0.000526	0.000526	0.003419	0.004615
N.BRUNS	0.000663	0.000288	0.005562	0.952188	0.005192	0.026823	0.001676	0.000000	0.002794	0.004615
QUEBEC	0.000490	0.000140	0.001190	0.001540	0.972700	0.017220	0.000770	0.000350	0.001610	0.003990
ONTARIO	0.000969	0.000332	0.001811	0.000944	0.003851	0.984800	0.001224	0.000459	0.001709	0.003002
MANITOBA	0.000482	0.000000	0.000000	0.001304	0.001786	0.013277	0.949739	0.003255	0.007395	0.022751
SASKWAN	0.000595	0.000000	0.001191	0.000000	0.001786	0.013277	0.008259	0.933125	0.019016	0.022751
ALBERTA	0.000223	0.000000	0.001005	0.000558	0.001786	0.013277	0.002785	0.003553	0.954061	0.022751
B.C.	0.000000	0.000126	0.000441	0.000378	0.001449	0.005922	0.001323	0.001512	0.006049	0.982800

ANNUAL PROGNOSTIC MIGRATION TRANSITION MATRIX										
FOR INCOMES \$7000 & OVER			AND AGES 25-35			YRS				
MOVING TO										
----->	FROM	P.E.I.	N.S.C.	N.BRUNS	QUEBEC	ONTARIO	MANITOBA	SASKWAN	ALBERTA	B.C.
NFND	0.960970	0.000000	0.006496	0.002133	0.003840	0.019840	0.001984	0.000000	0.001323	0.003413
P.E.I.	0.000000	0.950014	0.015708	0.003678	0.003840	0.019840	0.000000	0.000000	0.003307	0.003413
N.S.C.	0.001939	0.001551	0.953104	0.003006	0.003840	0.019840	0.000389	0.000389	0.002529	0.003413
N.BRUNS	0.000873	0.000291	0.005624	0.962813	0.003840	0.019840	0.001240	0.000000	0.002067	0.003413
QUEBEC	0.000275	0.000079	0.000667	0.000863	0.984700	0.009651	0.000432	0.000195	0.000902	0.002236
ONTARIO	0.000976	0.000334	0.001822	0.000950	0.003876	0.984700	0.001232	0.000462	0.001720	0.003928
MANITOBA	0.000325	0.000000	0.000000	0.000879	0.001204	0.008952	0.962496	0.003309	0.007494	0.015339
SASKWAN	0.000401	0.000000	0.000803	0.000000	0.001204	0.008952	0.008370	0.945558	0.019271	0.015339
ALBERTA	0.000151	0.000000	0.000677	0.000376	0.001204	0.008952	0.002823	0.003601	0.966876	0.015339
B.C.	0.000000	0.000136	0.000477	0.000409	0.001567	0.006404	0.001430	0.001635	0.006541	0.981400

MOVING TO										
----->	NFND	P.E.I.	N.S.C.	N.BRUNS	QUEBEC	ONTARIO	MANITOBA	SASKWAN	ALBERTA	B.C.
NFND	0.978414	0.000000	0.006614	0.002172	0.001617	0.008354	0.000835	0.000000	0.000557	0.001437
P.E.I.	0.000000	0.967258	0.015993	0.003049	0.001617	0.003354	0.000000	0.000000	0.001392	0.001437
N.S.C.	0.001974	0.001580	0.980586	0.003060	0.001617	0.009354	0.000164	0.000164	0.001065	0.001437
N.BRUNS	0.000388	0.000290	0.005726	0.980290	0.001617	0.009354	0.000522	0.000000	0.000870	0.001437
QUEBEC	0.000197	0.000056	0.000480	0.000620	0.989000	0.006938	0.000310	0.000141	0.000649	0.001608
ONTARIO	0.000274	0.000094	0.000512	0.000267	0.001089	0.995700	0.000346	0.000130	0.000483	0.001104
MANITOBA	0.000219	0.000000	0.000000	0.000593	0.000812	0.006035	0.971100	0.003339	0.007561	0.010341
SASKWAN	0.000271	0.000000	0.000541	0.000000	0.000812	0.006035	0.008445	0.954111	0.019444	0.010341
ALBERTA	0.000101	0.000000	0.000457	0.000254	0.000812	0.006035	0.002848	0.003633	0.975519	0.010341
B.C.	0.000000	0.000031	0.000110	0.000094	0.000362	0.001481	0.000331	0.000378	0.001512	0.995700

MOVING TO											
-----> NFND											
		P.E.I.	N.S.C.	N.BRUNS	QUEBEC	ONTARIO	MANITOBA	SASKWAN	ALBERTA	B.C.	
NFND	0.936343	0.000000	0.006668	0.002189	0.000906	0.003133	0.000313	0.000000	0.000209	0.000539	
P.E.I.	0.000000	0.975097	0.016122	0.003981	0.000606	0.005133	0.000000	0.000000	0.000522	0.000530	
N.S.C.	0.001990	0.001592	0.988532	0.003025	0.000606	0.003133	0.000061	0.000051	0.000399	0.000539	
N.BRUNS	0.000896	0.000299	0.005772	0.988234	0.000606	0.003133	0.000196	0.000000	0.000326	0.000539	
QUEBEC	0.000162	0.000046	0.000392	0.000508	0.991000	0.005677	0.000254	0.000115	0.000531	0.001315	
ONTARIO	0.000217	0.000074	0.000405	0.000211	0.000861	0.996600	0.000274	0.000103	0.000382	0.000873	
MANITOBA	0.000146	0.000000	0.000000	0.000395	0.000541	0.004023	0.977033	0.003359	0.007608	0.006894	
SASKWAN	0.000180	0.000000	0.000301	0.000000	0.000541	0.004023	0.008497	0.959941	0.019562	0.006894	
ALBERTA	0.000068	0.000000	0.000304	0.000169	0.000541	0.004023	0.002865	0.003656	0.981479	0.006894	
B.C.	0.000000	0.000026	0.000090	0.000077	0.000295	0.001205	0.000269	0.000308	0.001231	0.906500	

MOVING TO										
-----> NFND										
	P.E.I.	N.S.C.	N.BRUNS	QUEBEC	ONTARIO	MANITOBA	SASKWAN	ALBERTA	B.C.	
NFND	0.091100	0.000000	0.005700	0.002200	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
P.E.I.	0.000000	0.979800	0.016200	0.004000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
N.S.C.	0.002000	0.001000	0.993300	0.003100	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
N.BRUNS	0.000000	0.000300	0.005800	0.993000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
QUEBEC	0.000188	0.000054	0.000458	0.000592	0.989500	0.006623	0.000296	0.000135	0.000619	0.001535
ONTARIO	0.000204	0.000070	0.000381	0.000199	0.000311	0.990800	0.000258	0.000097	0.000350	0.000822
MANITOBA	0.000144	0.000000	0.000000	0.000398	0.000532	0.003956	0.977231	0.003360	0.007609	0.006779
SASKWAN	0.000177	0.000000	0.000355	0.000000	0.000532	0.003956	0.008499	0.960135	0.019566	0.006779
ALBERTA	0.000007	0.000000	0.000299	0.000166	0.000532	0.003956	0.002806	0.003556	0.981678	0.006779
B.C.	0.000000	0.000053	0.000185	0.000158	0.000607	0.002479	0.000554	0.000033	0.002532	0.992000

APPENDIX C.2

VALIDATION OF DEMOGRAPHIC BLOCK PARAMETERS

Section 4.3.4 outlined the general way in which the parameters of the Demographic Block could be validated and adjusted. It will be recalled that the method entailed, first of all the establishment of a confidence interval for the "successes" of a given process. This confidence interval depended on the observed population at risk and the probability of success for the event in question. If the observed number of successes of a given process was then within the relevant confidence interval, the probability of success could be deemed "valid". If not, it would have to be adjusted by a correction factor, which was a function of the observed number of successes, the population at risk, and the possibility of success.

The present appendix presents the details of this procedure for the processes of the Demographic Block. For any given process, tables of populations at risk, observed successes, probabilities of success, and the implied confidence intervals are presented. The correction factors that are derived from these parameters are then given, along with tables of the new adjusted probabilities.

In some cases, such as the survival process, the above procedure is not feasible. In these instances a more aggregate validation is presented.

C.2.1. Survival Process Probabilities

The Survival Probabilities for almost all ages are very close to unity. The method of validation described in section 4.3.4. for these processes failed to produce any fruitful conclusion for two reasons. First, the initial population errors are relatively quite high; and second, the probabilities either of death or of survival are very close to zero or to unity, respectively. Both reasons made the probabilities very sensitive to any adjustment, and it was found that either the death probabilities required a high order of correction or that the complementary survival probabilities exceeded unity.

However, a validation was made at the most aggregated level and it produced the following results:

For the year 1968 we expect 80,239 deaths for males and 55,676 deaths for females out of populations of 9,946,150 males and 9,951,850 females. These totals result from an analytical application of the estimated probabilities for the year 1968 to the 1968 Consumer Finance Tape population. The death ratios for this year are .0081 for males and .0056 for females. In the same year the Vital Statistics figures are .0086 for males and .0062 for females. This indicates that our probabilities are optimistic and on the aggregate we will loose 5 to 6 deaths for every 10,000 of population. This error is within our tolerance set by the simulation error margins. Therefore, despite our failure to follow a more comprehensive procedure of validation, the aggregate picture is quite satisfactory.

C.2.2. Emigration Process Probabilities

With these probabilities we had the following conceptual problem. From statistics of emigration flow for individuals we derived probabilities on emigration of families based on the characteristics of the family head. Comprehensive validation of such estimates is not possible due to the absence of statistics of emigration flows of families. However, we analytically estimated that for the year 1968 we should expect a total of 67,883 emigrants, while the actual aggregate emigration was recorded to be 67,270. The error is of the order of 0.9% (overestimate) which could be judged as satisfactory. The estimated joint distribution of emigrants over ages, regions, and family sizes might be less accurate, however. At the moment, due to the lack of available statistics, it is impossible to assess the extent of the errors at the more disaggregated levels.

C.2.3 Validation of Birth Parameters

In table C.10. are listed the 1968 female population eligible for birth by age and marital status, together with the observed number of births for the same year. The next table, C.11., contains the average birth probabilities in each 5-year age bracket for each marital status. The suggested procedure of validation in section 4.3.4. indicated that all the birth probabilities should be adjusted by the correction factors listed in table C.11. The adjusted probabilities are listed in table C.12. From inspection of the table of correction factors it seems that L. Stone overestimates the probabilities for the legitimate (married females) cases while underestimating those for the illegitimate (non-married females) ones.

TABLE C.10. FEMALE POPULATION AT RISK FOR BIRTH 1968 (VITAL STATISTICS OF S.C.)

POPULATION FOR BIRTHS(ACTUAL)

	15-19	20-24	25-29	AGE GROUP 30-34	35-39	40-44	45-49	TOTALS
Married	77500	441600	567700	553300	565100	580700	486700	3272600
Non-married	890200	387400	115100	67200	68000	64300	95400	1687600
Total	967700	829000	682800	620500	633100	645000	582100	4960200

ACTUAL NUMPER OF BIRTHS 1968

	15-19	20-24	25-29	AGE GROUP 30-34	35-39	40-44	45-49	TOTALS
Married	29046	115395	97947	51759	27479	8540	751	330917
Non-married	13197	12114	3839	1730	958	305	20	32163
Total	42243	127509	101786	53489	28437	8845	771	363080

TABLE C.11.

CORRECTION FACTORS FOR BIRTH PROBABILITIES

AGE GROUP	* 15-19	* 20-24	* 25-29	* 30-34	* 35-39	* 40-44	* 45-49	*
MARRIED	1.74531	0.89106	0.85646	0.77580	0.80269	0.63802	0.47188	*
NON-MARRIED	2.44230	1.75576	1.54272	2.24251	2.96595	2.31385	0.72291	*

AVERAGE PROBABILITIES (UN-ADJUSTED) OF BIRTH

AGE GROUP	* 15-19	* 20-24	* 25-29	* 30-34	* 35-39	* 40-44	* 45-49	*
MARRIED	0.21474	0.29326	0.20145	0.12058	0.06058	0.02305	0.00327	*
NON-MARRIED	0.00607	0.01781	0.02162	0.01148	0.00475	0.00205	0.00029	*

TABLE C.12. PROBABILITIES FOR GIVING BIRTH BY AGE=14...48 AND BIRTH ORDER=1...6.

	L E G I T I M A T E - - - - - I L L E G I T I M A T E - - - - -												TOTALS	
	BIRTH 1	BIRTH 2	BIRTH 3	BIRTH 4	BIRTH 5	BIRTH 6	BIRTH 1	BIRTH 2	BIRTH 3	BIRTH 4	BIRTH 5	BIRTH 6		
14	0.168180	0.082450	0.074040	0.094180	0.034910	0.0	0.004440	0.001370	0.0	0.0	0.0	0.0	0.000660	0.000660
15	0.672710	0.329790	0.296140	0.376710	0.139620	0.0	0.017780	0.005470	0.0	0.0	0.0	0.0	0.000730	0.000730
16	0.818550	0.420100	0.368960	0.463900	0.242070	0.0	0.024180	0.007330	0.000730	0.0	0.0	0.0	0.000860	0.000860
17	0.710240	0.382750	0.331740	0.411090	0.295530	0.012910	0.026050	0.007150	0.001380	0.000230	0.0	0.0	0.001160	0.001160
18	0.5933580	0.349640	0.294760	0.358900	0.313000	0.060500	0.027750	0.006940	0.001950	0.000220	0.000650	0.0	0.002950	0.002950
19	0.485090	0.309540	0.257650	0.306960	0.308070	0.090110	0.028430	0.006900	0.002440	0.000410	0.000610	0.000100	0.000660	0.000660
20	0.375190	0.271900	0.220790	0.248150	0.270070	0.281010	0.035910	0.007590	0.003070	0.001060	0.000320	0.000110	0.000330	0.000330
21	0.289580	0.229800	0.182950	0.208450	0.243900	0.305690	0.037360	0.007410	0.003420	0.001250	0.000390	0.000140	0.000460	0.000460
22	0.262260	0.229660	0.179230	0.189380	0.259140	0.372660	0.040410	0.007590	0.003910	0.001490	0.000460	0.000270	0.000620	0.000620
23	0.240640	0.219720	0.168500	0.176260	0.238490	0.345320	0.039810	0.006800	0.003860	0.001650	0.000620	0.000420	0.000620	0.000620
24	0.219320	0.200900	0.157920	0.163310	0.218130	0.318350	0.039180	0.006060	0.003810	0.001820	0.000770	0.000600	0.000770	0.000770
25	0.199980	0.202000	0.146450	0.149570	0.180040	0.244470	0.040050	0.004390	0.003150	0.001700	0.000820	0.000730	0.000820	0.000820
26	0.187720	0.192350	0.136230	0.137080	0.162070	0.222530	0.039350	0.003830	0.003120	0.001820	0.000940	0.000860	0.000940	0.000940
27	0.166380	0.177530	0.124800	0.123410	0.142800	0.198740	0.043350	0.004360	0.003450	0.002150	0.001160	0.001830	0.001160	0.001160
28	0.145100	0.155810	0.110280	0.109470	0.126150	0.179900	0.040480	0.005670	0.004140	0.003060	0.001800	0.002950	0.001800	0.001800
29	0.116300	0.135410	0.096240	0.095990	0.110060	0.161640	0.036620	0.008360	0.004930	0.004200	0.002530	0.006870	0.002530	0.002530
30	0.096400	0.110030	0.077830	0.079180	0.089840	0.142110	0.023720	0.012150	0.007990	0.006810	0.004420	0.009170	0.004420	0.004420
31	0.078950	0.089780	0.065500	0.067180	0.075570	0.125260	0.019350	0.011750	0.008750	0.008430	0.005650	0.011710	0.005650	0.005650
32	0.072860	0.074820	0.055140	0.057180	0.063570	0.112080	0.014280	0.011600	0.009740	0.010220	0.006970	0.012560	0.006970	0.006970
33	0.061700	0.061610	0.048730	0.051280	0.057910	0.103650	0.014050	0.010790	0.010180	0.009870	0.006910	0.013420	0.006910	0.006910
34	0.044230	0.053250	0.042240	0.045290	0.052180	0.095100	0.013680	0.007630	0.009420	0.009390	0.006830	0.014110	0.006830	0.006830
35	0.035540	0.043460	0.034080	0.038820	0.048010	0.088210	0.016450	0.007340	0.007870	0.007700	0.005900	0.014980	0.005900	0.005900
36	0.025490	0.033620	0.027700	0.032720	0.041900	0.079220	0.015690	0.006170	0.006110	0.007090	0.005720	0.015870	0.005720	0.005720
37	0.022130	0.024080	0.020860	0.025280	0.034000	0.066780	0.013470	0.005180	0.004710	0.005840	0.004980	0.013210	0.004980	0.004980
38	0.016780	0.017460	0.017340	0.019950	0.027950	0.055700	0.010930	0.003900	0.003490	0.004680	0.004330	0.010740	0.004330	0.004330
39	0.010550	0.013750	0.012590	0.015760	0.022330	0.045350	0.008600	0.001980	0.002730	0.003580	0.003680	0.006950	0.003680	0.003680
40	0.006100	0.008760	0.007390	0.010180	0.014910	0.032370	0.005110	0.001080	0.001610	0.001880	0.002080	0.005210	0.002080	0.002080
41	0.003920	0.005710	0.004890	0.007020	0.010710	0.024330	0.003540	0.000670	0.001020	0.001230	0.002550	0.003610	0.002550	0.002550
42	0.002640	0.002930	0.002590	0.004150	0.006870	0.016960	0.001940	0.000300	0.000440	0.000580	0.001860	0.002570	0.001860	0.001860
43	0.001860	0.001970	0.001990	0.003200	0.005290	0.013190	0.001330	0.000200	0.000300	0.000400	0.001260	0.001690	0.001260	0.001260
44	0.001060	0.001470	0.001450	0.002330	0.003840	0.009740	0.000840	0.000120	0.000190	0.000240	0.000770	0.000820	0.000770	0.000770
45	0.000300	0.000400	0.000560	0.000860	0.001360	0.004290	0.000210	0.0	0.0	0.000100	0.000100	0.000310	0.000100	0.000100
46	0.000140	0.000190	0.000280	0.000520	0.000710	0.002550	0.000140	0.0	0.0	0.000070	0.000070	0.000070	0.000070	0.000070
47	0.000040	0.000040	0.000080	0.000190	0.000190	0.001060	0.000120	0.0	0.0	0.0	0.0	0.0	0.0	0.0
48	0.0	0.0	0.0	0.0	0.0	0.000280	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

TABLE C.12a CONFIDENCE INTERVALS FOR BIRTHS

-----LEGITIMATE-----				-----ILLEGITIMATE-----			
LOWER	UPPER	OBSERVED	LOWER	UPPER	OBSERVED	LOWER	OBSERVED
*****	*****	*****	*****	*****	*****	*****	*****
16453	16830	29046	5282	5524	13197		
129004	130002	115395	6763	7035	12114		
113864	114861	97947	2407	2569	3839		
66317	67116	51759	725	817	1730		
33937	34529	27479	293	352	958		
13196	13573	8540	112	150	305		
1525	1657	751	18	36	20		
*****	*****	*****	*****	*****	*****	*****	*****

15-19
20-24
25-29
30-34
35-39
40-44
45-49

C.2.4. Validation of Marriage Probabilities

The tables that follow describe the validation of the probabilities that an individual will get married within a given year. Table C.13. lists the 1968 population of individuals eligible for marriage by 5-year age groups, by sex, and by marital status. In table C.14. the observed marriages for 1968 are listed, stratified on the same characteristics. Both tables C.13. and C.14. are derived from Vital Statistics data. In table C.15. the average probabilities are listed while in table C.16. the correction factors are presented. In table C.17. the confidence intervals are shown as outlined in section 4.3.4. Finally, in table C.18., the adjusted probabilities for marriage are listed.

TABLE C.13. POPULATION AT RISK FOR MARRIAGE IN 1968
(VITAL STATISTICS OF S.C.)

Age	-----MALE-----		-----FEMALE-----	
	SINGLE	OTHER	SINGLE	OTHER
15-19	980200.	200.	890100.	100.
20-24	570300.	900.	384800.	2600.
25-29	196900.	3400.	107700.	7400.
30-34	94300.	4700.	57200.	10000.
35-39	76000.	7000.	50000.	18000.
40-44	70000.	7600.	43300.	21000.
45-49	57500.	12300.	49500.	45900.
50-54	47200.	11000.	41100.	42000.
55-59	48000.	17400.	46900.	86500.
60-64	32400.	18000.	34000.	74200.
65-69	32100.	46700.	52100.	131300.
70-	48300.	99200.	36800.	320000.

TABLE C.14.

MARRIAGES IN 1968 (VITAL STATISTICS OF S.C.)

Age	-----M A L E-----		---F E M A L E---	
	SINGLE	OTHER	SINGLE	OTHER
15-19	11848.	1.	47620.	38.
20-24	92773.	401.	85827.	1245.
25-29	36307.	1776.	16068.	2392.
30-34	9111.	1976.	3776.	1894.
35-39	3574.	1795.	1618.	1627.
40-44	1852.	1597.	919.	1700.
45-49	924.	1474.	617.	1607.
50-54	540.	1275.	322.	1464.
55-59	325.	1280.	219.	1200.
60-64	234.	1037.	125.	853.
65-69	116.	966.	60.	697.
70	94.	1244.	38.	594.

TABLE C.15. AVERAGE PROBABILITIES (UNADJUSTED) FOR MARRIAGE

Age	---- M A L E ----		-- F E M A L E --	
	SINGLE	OTHER	SINGLE	OTHER
15-19	0.012519	0.000494	0.053633	0.019467
20-24	0.155055	0.062361	0.213981	0.090547
25-29	0.182393	0.127266	0.143516	0.093199
30-34	0.116340	0.119926	0.072370	0.075573
35-39	0.053113	0.158837	0.038338	0.085291
40-44	0.030744	0.116450	0.022104	0.057276
45-49	0.019106	0.098231	0.012070	0.046188
50-54	0.0	0.078053	0.0	0.024811
55-59	0.0	0.055892	0.0	0.013408
60-64	0.0	0.036980	0.0	0.006498
65-69	0.0	0.024571	0.0	0.003087
70	0.0	0.0	0.0	0.0

TABLE C.16.

CORRECTION FACTORS OF MARRIAGE PROBABILITIES

Age	---- M A L E ---		-- F E M A L E --	
	SINGLE	OTHER	SINGLE	OTHER
15-19	0.965540	1.000000	0.997519	1.000000
20-24	1.049135	7.144725	1.042350	5.288369
25-29	1.010963	4.104419	1.039553	3.468295
30-34	0.830476	3.505712	0.912180	2.506171
35-39	1.000000	1.614417	0.844080	1.059765
40-44	0.860563	1.804484	0.960206	1.413363
45-49	1.000000	1.219954	1.032678	0.758001
50-54	1.000000	1.485014	1.000000	1.404909
55-59	1.000000	1.316165	1.000000	1.034666
60-64	1.000000	1.557886	1.000000	1.769235
65-69	1.000000	0.841859	1.000000	1.719385
70	1.000000	1.000000	1.000000	1.000000

	S I N G L E				M A L E				F E M A L E							
	U P P E R		O B S E R V E D		L O W E R		T H E R		U P P E R		O B S E R V E D		L O W E R		T H E R	
15-19	10591	10931	11848	0	2	1	44171	44848	47620	30	51	38				
20-24	75404	76239	92773	239	291	401	66384	67140	85827	871	966	1245				
25-29	28474	28979	36307	851	943	1776	12564	12909	16068	1549	1675	2392				
30-34	9567	9873	9111	1756	1888	1976	3290	3475	3776	1523	1650	1894				
35-39	3389	3578	3574	2652	2811	1795	1256	1373	1618	1711	1844	1627				
40-44	1467	1594	1852	2076	220	1597	728	819	919	2051	2198	1700				
45-49	851	949	924	1967	2109	1474	474	548	617	2415	2577	1607				
50-54	0	0	540	2191	2342	1275	0	0	322	1705	1842	1464				
55-59	0	0	325	1742	1879	1280	0	0	219	1086	1197	1200				
60-64	0	0	234	1254	1371	1037	0	0	125	556	637	853				
65-69	0	0	116	986	1091	966	0	0	60	344	408	697				
70+	0	0	94	0	0	1244	0	0	38	0	0	594				

TABLE C.18.a.

ADJUSTED PROBABILITIES OF SINGLE PERSONS TO GET MARRIED

AGE	---ATLANTIC---		---QUEBEC----		---ONTARIO----		---PRAIRIES---		--BR. COLUMBIA--		PCW TOTALS
	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	
00-14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
15-19	0.017090	0.065840	0.004780	0.031740	0.014240	0.060590	0.017270	0.069600	0.015330	0.070780	
20-24	0.192760	0.246560	0.141760	0.199290	0.166740	0.229000	0.187670	0.254370	0.159430	0.224160	
25-29	0.203390	0.170420	0.181180	0.131180	0.184690	0.160840	0.188550	0.157730	0.174880	0.160720	
30-34	0.072260	0.054720	0.073830	0.052340	0.094380	0.078650	0.081840	0.071620	0.191790	0.080520	
35-39	0.037560	0.024100	0.036760	0.024880	0.055190	0.038780	0.048840	0.036410	0.055790	0.041720	
40-44	0.023340	0.016400	0.021580	0.015260	0.029440	0.026510	0.027100	0.024890	0.033870	0.028930	
45-49	0.012150	0.011490	0.012010	0.008960	0.019080	0.014610	0.016440	0.012230	0.021320	0.021520	
50-54	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
55-59	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
60-64	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
65-69	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
70+	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	

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TABLE C.18.b. ADJUSTED PROBABILITIES OF PERSONS OTHER THAN SINGLE TO GET MARRIED

AGE	---ATLANTIC---		---QUEBEC----		---ONTARIO---		---PRAIRIES---		-BR.COLUMBIA-		TOTALS
	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	
00-14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15-19	0.003170	0.488390	0.0	0.069650	0.0	0.240070	0.017590	0.679080	0.003390	0.670330	0.0
20-24	0.514550	0.447830	0.192500	0.185550	0.439410	0.481530	0.713150	0.762800	0.624840	0.763490	0.0
25-29	0.539140	0.331730	0.267770	0.154470	0.572200	0.367140	0.761380	0.441150	0.699640	0.481540	0.0
30-34	0.431480	0.176530	0.238510	0.096530	0.468300	0.226180	0.575220	0.248790	0.547020	0.259180	0.0
35-39	0.302970	0.076950	0.182130	0.047890	0.300320	0.113910	0.274650	0.109370	0.256040	0.128130	0.0
40-44	0.228310	0.076340	0.150890	0.039870	0.249530	0.097280	0.230820	0.098610	0.201140	0.113290	0.0
45-49	0.111530	0.021390	0.088580	0.013930	0.132080	0.035640	0.107620	0.032630	0.175110	0.096900	0.0
50-54	0.130330	0.027720	0.075880	0.017820	0.138140	0.042810	0.114460	0.037240	0.128460	0.049590	0.0
55-59	0.073890	0.011900	0.052500	0.011080	0.092980	0.015540	0.059790	0.012970	0.092370	0.018550	0.0
60-64	0.047680	0.008500	0.048460	0.010950	0.067230	0.012260	0.050790	0.011520	0.065790	0.012140	0.0
65-69	0.017640	0.005370	0.016700	0.004850	0.022820	0.005130	0.021770	0.005280	0.022180	0.006840	0.0
70+	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****

C.2.5. Validation of Divorce Probabilities

As in the marriage process we list the observed population at risk in 1968 in table C.19. by sex and 5-year age groups. In table C.20. are listed the observed number of divorces during 1968. In table C.21. the average probabilities are listed, while table C.22. lists the correction factors. Table C.23. then presents the confidence intervals, and finally, table C.24. lists the adjusted divorce probabilities.

TABLE C.19.

POPULATION OF MARRIED 1968
(Vital Statistics of S.C.)

Age	Male	Female
15-19	19900.	77500.
20-24	258500.	441600.
25-29	480500.	567700.
30-34	538600.	553300.
35-39	570100.	565100.
40-44	567300.	580700.
45-49	501500.	486700.
50-54	451200.	427600.
55-59	373700.	301200.
60-64	297800.	245700.
65-69	187000.	106300.
70	323000.	221900.

TABLE C.20.

FREQUENCY OF DIVORCES 1968
(Vital Statistics of S.C.)

Age	Male	Female
15-19	12.	107.
20-24	872.	2255.
25-29	3151.	3822.
30-34	3213.	3199.
35-39	3271.	3015.
40-44	2976.	2950.
45-49	2762.	2648.
50-54	2033.	1794.
55-59	1688.	1094.
60-64	994.	569.
65-69	576.	287.
70	351.	158.

C.20

TABLE C.21.

AVERAGE PROBABILITIES OF DIVORCE

Age	Male	Female
15-19	0.006030	0.006940
20-24	0.017290	0.011790
25-29	0.017580	0.011190
30-34	0.015400	0.009010
35-39	0.012700	0.007720
40-44	0.010340	0.006290
45-49	0.008420	0.004900
50-54	0.004620	0.002290
55-59	0.003170	0.002340
60-64	0.003340	0.002310
65-69	0.003080	0.002700
70	0.001080	0.000710

TABLE C.22.

CORRECTION FACTORS

Age	Male	Female
15-19	0.100003	0.198940
20-24	0.195102	0.433116
25-29	0.373024	0.601647
30-34	0.387368	0.641695
35-39	0.451779	0.691106
40-44	0.507341	0.807643
45-49	0.654095	1.110352
50-54	0.975274	1.832100
55-59	1.424918	1.552196
60-64	0.999345	1.002524
65-69	1.000000	0.999966
70	1.006192	1.002862

TABLE C.23. CONFIDENCE INTERVALS FOR DIVORCE SEX X AGE GROUP

	M A L E		F E M A L E		
	LOWER	UPPER	LOWER	UPPER	OBSERVED
15-19	38	61	374	440	107
20-24	3967	4176	4953	5187	2255
25-29	8006	8302	5904	6159	3822
30-34	7727	8018	4931	5164	3199
35-39	7158	7438	4078	4290	3015
40-44	5303	5545	3190	3379	2950
45-49	3802	4007	2225	2383	2648
50-54	1784	1925	786	881	1794
55-59	1017	1125	621	706	1094
60-64	824	921	443	516	569
65-69	561	642	337	400	287
70+	282	340	107	144	158
	*****	*****	*****	*****	*****

TABLE C.24.

DIVORCE PROBABILITIES by AGE and SEX

	MALE	FEMALE	PQW TOTALS
	*****	*****	*
15	0.0	0.0	
16	0.0	0.000520	
17	0.000200	0.000850	
18	0.000450	0.001250	
19	0.000710	0.001560	
20	0.002180	0.003600	
21	0.002840	0.004600	
22	0.003500	0.005600	
23	0.003560	0.005570	
24	0.003630	0.005540	
25	0.006510	0.006960	
26	0.006620	0.006890	
27	0.006740	0.006880	
28	0.006570	0.006610	
29	0.006400	0.006340	
30	0.006330	0.006260	
31	0.006160	0.005990	
32	0.005990	0.005700	
33	0.005780	0.005540	
34	0.005570	0.005380	
35	0.006210	0.005700	
36	0.005960	0.005520	
37	0.005720	0.005340	
38	0.005510	0.005130	
39	0.005290	0.004920	
40	0.005680	0.005630	
41	0.005440	0.005240	
42	0.005200	0.005000	
43	0.005000	0.004770	
44	0.004810	0.004550	
45	0.006030	0.006330	
46	0.005700	0.006000	
47	0.005510	0.005550	
48	0.005250	0.004890	
49	0.004980	0.003890	
50	0.006770	0.006410	
51	0.005560	0.005130	
52	0.004510	0.004100	
53	0.003310	0.002820	
54	0.002330	0.002310	
55	0.002420	0.001300	
56	0.001540	0.000650	
57	0.006440	0.005630	
58	0.006440	0.005630	
59	0.006440	0.005630	
60	0.003340	0.002320	
61	0.003340	0.002320	
62	0.003340	0.002320	
63	0.003340	0.002320	
64	0.003340	0.002320	
65	0.003080	0.002700	
66	0.003080	0.002700	
67	0.003080	0.002700	
68	0.003080	0.002700	
69	0.003080	0.002700	
70+	0.001090	0.000710	
	*****	*****	*

C.2.6. Validation of Interprovincial Migration Probabilities

The Interprovincial Migration Probabilities were validated in a different way than were the probabilities describing the other Demographic Block processes. The reason was the lack of a second source of information. In table C.25. there is shown the distribution of population by age and province in the year 1968 as recorded in the Consumer Finance 1968 tape (April 1968 population). By using the interprovincial migration probabilities and ignoring death, emigration, births, and immigration, the new distributions of population were computed for the years 1969, 1970, 1971 and 1972 as shown in tables C.26, C.27, C.28 and C.29, respectively.

Again from the Consumer Finance 1972 tape (April 1972 population) we obtain the distribution of population by age and province and this is shown in table C.30. By comparison of tables C.29. and C.30. we can see that the differences between these distributions are not significant. This is especially true when account is taken that many processes influencing these distributions are ignored in the preparation of Table C.29. The Interprovincial migration process can therefore be deemed satisfactory.

AGE	PROVINCE									
	1	2	3	4	5	6	7	8	9	10
1	30550.	4300.	35450.	35100.	290350.	406500.	52250.	58950.	80600.	105950.
2	123150.	26100.	176150.	149350.	1399850.	1773800.	193850.	203050.	347450.	494100.
3	159100.	18350.	205500.	154550.	1898350.	2012600.	253350.	244600.	399950.	535700.
4	160500.	40550.	234450.	191700.	1780700.	2047850.	313100.	290150.	433350.	548650.
5	35200.	17000.	89800.	70950.	473950.	703350.	117600.	113250.	134500.	232500.
DISTRIBUTIONS WITHIN EACH AGE BRACKET										
1	0.0278	0.0039	0.0322	0.0319	0.2640	0.3695	0.0475	0.0536	0.0733	0.0963
2	0.0252	0.0053	0.0360	0.0306	0.2865	0.3630	0.0397	0.0416	0.0711	0.1011
3	0.0270	0.0031	0.0349	0.0263	0.3227	0.3422	0.0431	0.0416	0.0680	0.0911
4	0.0266	0.0067	0.0388	0.0317	0.2948	0.3390	0.0518	0.0480	0.0717	0.0908
5	0.0177	0.0086	0.0452	0.0357	0.2384	0.3538	0.0592	0.0570	0.0677	0.1169

*Note: PROVINCES:1=NFDN, 2=PEI, 3=N.B., 4=N.S., 5=P.Q., 6=ONT.,
7=MAN., 8=SASK., 9=ALTA., 10=B.C.

By age we mean age of the family's head in which the individuals belong. The codes are: 1=14-24 yrs., 2=25-35 yrs., 3=36-45 yrs., 4=46-64 yrs., and 5=65 yrs. and over.

AGE *	PROVINCE									
	1	2	3	4	5	6	7	8	9	10
1 *	29208.	4281.	35186.	34177.	288745.	409233.	51563.	55965.	81390.	110250.
2 *	120544.	25927.	176534.	148384.	1391358.	1781048.	193211.	196116.	350423.	503259.
3 *	157329.	18452.	206153.	154414.	1887732.	2022648.	251497.	236996.	401549.	545221.
4 *	159113.	40028.	235398.	191237.	1775636.	2053326.	311670.	282548.	437090.	554885.
5 *	35358.	16882.	90559.	71195.	470874.	703844.	117827.	110881.	137236.	233437.

DISTRIBUTIONS WITHIN EACH AGE BRACKET

1 *	0.0266	0.0039	0.0320	0.0311	0.2625	0.3720	0.0469	0.0509	0.0740	0.1002
2 *	0.0247	0.0053	0.0361	0.0304	0.2847	0.3645	0.0395	0.0401	0.0717	0.1030
3 *	0.0267	0.0031	0.0350	0.0263	0.3209	0.3439	0.0428	0.0403	0.0683	0.0927
4 *	0.0263	0.0066	0.0390	0.0317	0.2939	0.3399	0.0516	0.0468	0.0724	0.0919
5 *	0.0178	0.0085	0.0456	0.0358	0.2368	0.3540	0.0593	0.0558	0.0690	0.1174

*Note: Provinces: 1=NFDN, 2=PEI, 3=N.B., 4=N.S., 5=P.Q., 6=ONT.,
7=MAN., 8=SASK., 9=ALTA., 10=B.C.

By age we mean age of the family's head in which the individuals belong. The codes are: 1=14-24 yrs., 2=25-35 yrs., 3=36-45 yrs., 4=46-64 yrs., and 5=65 yrs and over.

AGE *	PROVINCE									
	1	2	3	4	5	6	7	8	9	10
1 *	27978.	4268.	34950.	33322.	287182.	411757.	50902.	53211.	82137.	114289.
2 *	118092.	25768.	176914.	147463.	1383010.	1788071.	192560.	189588.	353243.	512094.
3 *	155599.	18554.	206784.	154281.	1877244.	2032583.	249643.	229738.	402983.	554585.
4 *	157755.	39525.	236315.	190783.	1770628.	2058777.	310220.	275243.	440627.	561060.
5 *	35516.	16768.	91312.	71441.	467831.	704317.	118039.	108596.	139902.	234370.

DISTRIBUTIONS WITHIN EACH AGE BRACKET

1 *	0.0254	0.0039	0.0318	0.0303	0.2611	0.3743	0.0463	0.0484	0.0747	0.1039
2 *	0.0242	0.0053	0.0362	0.0302	0.2830	0.3659	0.0394	0.0388	0.0723	0.1048
3 *	0.0265	0.0032	0.0352	0.0262	0.3192	0.3456	0.0424	0.0391	0.0685	0.0943
4 *	0.0261	0.0065	0.0391	0.0316	0.2931	0.3408	0.0514	0.0456	0.0729	0.0929
5 *	0.0179	0.0084	0.0459	0.0359	0.2353	0.3543	0.0594	0.0546	0.0704	0.1179

*Note: Provinces: 1=NFDN, 2=PEI, 3=N.B., 4=N.S., 5=P.Q., 6=ONT.,
7=MAN., 8=SASK., 9=ALTA., 10=B.C.

By age we mean age of the family's head in which the individuals belong. The codes are: 1=14-24 yrs., 2=25-35 yrs., 3=36-45 yrs., 4=46-64 yrs., and 5=65 yrs and over.

AGE *	PROVINCE									
	1	2	3	4	5	6	7	8	9	10
1	26851.	4261.	34741.	32531.	285659.	414088.	50266.	50671.	82845.	118085.
2	115783.	25621.	177290.	146583.	1374786.	1794868.	191900.	183440.	355918.	520616.
3	153907.	18654.	207394.	154149.	1866851.	2042386.	247790.	222809.	404260.	563794.
4	156422.	39039.	237201.	190335.	1765657.	2064172.	308749.	268222.	443966.	567173.
5	35673.	16658.	92059.	71686.	464817.	704769.	118235.	106393.	142502.	235299.

DISTRIBUTIONS WITHIN EACH AGE BRACKET

1	*	0.0244	0.0039	0.0316	0.0296	0.2597	0.3764	0.0457	0.0461	0.0753	0.1074
2	*	0.0237	0.0052	0.0363	0.0300	0.2813	0.3673	0.0393	0.0375	0.0728	0.1065
3	*	0.0262	0.0032	0.0353	0.0262	0.3174	0.3472	0.0421	0.0379	0.0687	0.0959
4	*	0.0259.	0.0065	0.0393	0.0315	0.2923	0.3417	0.0511	0.0444	0.0735	0.0939
5	*	0.0179	0.0084	0.0463	0.0361	0.2338	0.3545	0.0595	0.0535	0.0717	0.1184

* Note: Provinces: 1=NFDN, 2=PEI, 3=N.B., 4=N.S., 5=P.Q., 6=ONT., 7=MAN., 8=SASK., 9=ALTA., 10=B.C.

By age we mean age of the family's head in which the individuals belong. The codes are: 1=14-24 yrs., 2=25-35 yrs., 3=36-45 yrs., 4=46-64 yrs., and 5=65 yrs and over.

POPULATION BY PROVINCE AND AGE FOR 1972

AGE *	PROVINCE									
	1	2	3	4	5	6	7	8	9	10
1	26818.	4259.	34555.	31798.	284174.	416240.	49655.	48329.	83515.	121654.
2	113609.	25485.	177661.	145743.	1366679.	1801441.	191233.	177653.	358456.	528838.
3	152252.	18755.	207982.	154017.	1856570.	2052046.	245939.	216195.	405388.	572850.
4	155115.	38569.	238056.	189892.	1760713.	2069516.	307260.	261474.	447116.	573225.
5	35831.	16552.	92801.	71931.	461832.	705200.	118418.	104267.	145037.	236224.

DISTRIBUTIONS WITHIN EACH AGE BRACKET

1	*	0.0235	0.0039	0.0314	0.0289	0.2583	0.3784	0.0451	0.0439	0.0759	0.1106
2	*	0.0232	0.0052	0.0364	0.0298	0.2797	0.3686	0.0391	0.0364	0.0734	0.1082
3	*	0.0259	0.0032	0.0354	0.0262	0.3156	0.3489	0.0418	0.0368	0.0689	0.0974
4	*	0.0257	0.0064	0.0394	0.0314	0.2915	0.3426	0.0509	0.0433	0.0740	0.0949
5	*	0.0180	0.0083	0.0467	0.0362	0.2323	0.3547	0.0596	0.0524	0.0730	0.1188

* Note: Provinces: 1=NFDN, 2=PEI., 3=N.B., 4=N.S., 5=P.Q., 6=ONT., 7=MAN., 8=SASK., 9=ALTA., 10=B.C.

By age we mean age of the family's head in which the individuals belong. The codes are: 1=14-24 yrs., 2=25-35 yrs., 3=36-45 yrs., 4=46-64 yrs., and 5=65 yrs and over.

AGE *	PROVINCE									
	1	2	3	4	5	6	7	8	9	10
1 *	36600.	7400.	48200.	37350.	338700.	561450.	68500.	60050.	126450.	171050.
2 *	127850.	25450.	198000.	156400.	1397750.	1892900.	192250.	162850.	402200.	591000.
3 *	142900.	21250.	202600.	161200.	1762200.	2154250.	244250.	230050.	467250.	585150.
4 *	168950.	36300.	260600.	201900.	1958000.	2295150.	336550.	279450.	489400.	1749750.
5 *	47000.	17300.	85950.	66000.	540300.	742000.	121900.	118050.	162500.	243050.

DISTRIBUTIONS WITHIN EACH AGE BRACKET

1 *	0.0251	0.0051	0.0331	0.0257	0.2327	0.3857	0.0471	0.0413	0.0869	0.1175
2 *	0.0248	0.0049	0.0385	0.0304	0.2716	0.3678	0.0374	0.0316	0.0781	0.1148
3 *	0.0239	0.0036	0.0339	0.0270	0.2951	0.3608	0.0409	0.0385	0.0783	0.0980
4 *	0.0217	0.0047	0.0335	0.0260	0.2518	0.2952	0.0433	0.0359	0.0629	0.2250
5 *	0.0219	0.0081	0.0401	0.0308	0.2520	0.3461	0.0569	0.0551	0.0758	0.1134

* Note: Provinces: 1=NFDN, 2=PEI., 3=N.B., 4=N.S., 5=P.Q., 6=ONT., 7=MAN., 8=SASK., 9=ALTA., 10=B.C.

By age we mean age of the family's head in which the individuals belong. The codes are: 1=14-24 yrs., 2=25-35 yrs., 3=36-45 yrs., 4=46-64 yrs., and 5=65 yrs. and over.

APPENDIX C.3

INITIAL POPULATION ERRORS

INITIAL POPULATION ERRORS

In this Appendix we report initial population errors, for the 1968 year, as they pertain to the following demographic block processes: the death process, the birth process, the marriage process, and the divorce process.

Table C.31. contains initial population errors for the whole national population by age, sex and region. Since the whole national population is the population at risk for death, these errors signify the tolerances on the number of simulated deaths. For example, the 1967 Consumer Finance Tape contains 10.8% too few male individuals from Quebec in the age bracket 10-14 years of age (relative to Census Statistics). Therefore we are bound to have an error in this group for deaths of at least 10.8%.

Table C.32. contains the initial population errors for the female population from 15 to 49 years of age. This population is the population at risk for giving birth. The most significant error in this group is the married population of age 25-29 years (-10.2%). The other errors in this group which are large, 24.2% and 10.1% for the married population of ages 15-19 and 40-44 years of age, respectively, are not too significant since the birth probabilities in these groups are not as high as for the 25-29 age group.

Table C.33. contains initial population errors for the married population, which is the population at risk for divorce. As can be seen, the Consumer Finance file underestimates the number of married individuals for almost all ages and for both sexes, except for the age bracket 60-64. A few of these errors are quite significant.

Finally, table C.34. contains the initial population errors for the non-married, which constitutes the population at risk for marriage. The errors for single people are almost all negative, i.e., the Consumer Finance file under-represents the population of single people. The errors are almost all positive for "other" (divorced, widowed, separated, etc.), i.e., the Consumer Finance file over-represents the "others".

TABLE C.31. INITIAL ERROR IN POPULATION AT RISK FOR DEATH PROCESS BY SEX, REGION AND AGE

AGE	MARITIMES				QUEBEC				ONTARIO				PRAIRIES				B.C.	
	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE
0-4	0.075	0.022	0.052	-0.140	-0.207	0.098	0.030	0.016	-0.156	-0.145	-0.030	0.016	-0.156	-0.145	-0.030	0.016	-0.156	-0.145
5-9	-0.046	0.017	-0.009	-0.023	0.040	0.075	0.017	0.050	0.043	-0.044	-0.017	0.050	0.043	-0.044	-0.017	0.050	0.043	-0.044
10-14	-0.068	-0.013	-0.108	-0.010	-0.016	-0.104	-0.035	-0.031	0.007	0.032	-0.035	-0.031	0.007	0.032	-0.035	-0.031	0.007	0.032
15-19	0.067	0.140	0.038	-0.062	-0.103	0.092	0.108	0.035	0.009	-0.117	0.108	0.035	0.009	-0.117	0.108	0.035	0.009	-0.117
20-24	-0.084	-0.013	0.081	-0.007	-0.132	-0.053	0.062	0.016	-0.053	-0.050	-0.132	-0.053	0.062	-0.050	-0.132	-0.053	0.062	-0.050
25-29	-0.073	-0.063	-0.111	-0.109	0.092	-0.143	-0.050	-0.164	-0.108	-0.036	0.092	-0.143	-0.050	-0.164	-0.108	-0.036	-0.108	-0.036
30-34	-0.021	0.017	-0.052	-0.170	-0.052	-0.000	0.027	-0.016	-0.088	-0.053	-0.052	-0.000	0.027	-0.016	-0.088	-0.053	-0.088	-0.053
35-39	-0.049	-0.026	-0.005	-0.142	-0.031	-0.036	-0.003	-0.106	-0.089	-0.018	-0.031	-0.036	-0.003	-0.106	-0.089	-0.018	-0.089	-0.018
40-44	-0.036	-0.060	-0.064	-0.001	-0.011	-0.066	-0.128	0.004	-0.003	-0.053	-0.011	-0.066	-0.128	0.004	-0.003	-0.053	-0.003	-0.053
50-54	-0.088	-0.054	-0.061	-0.142	-0.173	-0.085	-0.097	-0.049	-0.090	-0.057	-0.173	-0.085	-0.097	-0.049	-0.090	-0.057	-0.090	-0.057
55-59	-0.107	-0.108	-0.000	-0.074	-0.099	-0.110	-0.053	-0.057	-0.083	-0.041	-0.099	-0.110	-0.053	-0.057	-0.083	-0.041	-0.083	-0.041
60-64	-0.085	0.045	0.129	0.060	-0.034	0.070	0.031	0.020	0.077	0.124	-0.034	0.070	0.031	0.020	0.077	0.124	0.077	0.124
65-69	0.064	0.021	0.026	-0.116	-0.185	0.004	-0.000	0.005	-0.172	-0.096	-0.185	0.004	-0.000	0.005	-0.172	-0.096	-0.172	-0.096
70+	-0.053	-0.058	-0.057	-0.041	-0.014	-0.088	0.091	-0.116	-0.146	-0.026	-0.014	-0.088	0.091	-0.116	-0.146	-0.026	-0.146	-0.026
	-0.004	-0.216	-0.103	0.078	0.141	-0.086	0.097	-0.108	0.070	-0.033	0.141	-0.086	0.097	-0.108	0.070	-0.033	0.070	-0.033
	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****

* Relative to 1968 Census

AGE _____ MARRIED _____ NONMARRIED _____

* * *

* * *

15-19	-0.242	-0.065
20-24	-0.040	-0.163
25-29	-0.102	-0.080
30-34	0.013	0.009
35-39	0.034	-0.129

40-44	-0.101	0.121
45-49	-0.033	0.011

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* Relative to 1968 Census

AGE	MALE	FEMALE
*****	*****	*****
15-19	-0.583	-0.242
20-24	-0.089	-0.026
25-29	-0.035	-0.050
30-34	-0.051	0.013
35-39	0.008	-0.041
40-44	-0.075	-0.101
45-49	-0.075	-0.033
50-54	-0.110	-0.148
55-59	-0.096	-0.058
60-64	-0.122	-0.154
65-69	0.046	0.285
70+	-0.107	-0.199
*****	*****	*****

* Relative to 1968 Census

TABLE C.34. INITIAL ERROR IN POPULATION AT RISK FOR MARRIAGE PROCESS BY

SEX, MARITAL STATUS, AND AGE*

AGE	-- SINGLE ----		--- OTHER ---	
	MALE	FEMALE	MALE	FEMALE
*****	*****	*****	*****	*****
15-19	-0.123	-0.068	5.750	20.000
20-24	-0.143	-0.189	3.722	2.904
25-29	-0.200	-0.176	1.074	1.338
30-34	-0.114	-0.183	2.234	1.100
35-39	-0.137	-0.314	1.457	0.158
40-44	-0.289	-0.192	1.428	0.767
45-49	-0.180	-0.143	0.687	0.178
50-54	0.011	-0.111	1.641	0.702
55-59	-0.126	-0.193	0.862	-0.015
60-64	-0.015	-0.019	0.972	0.239
65-69	-0.257	-0.473	-0.094	-0.071
70+	-0.123	0.167	0.362	0.018
	*****	*****	*****	*****

* Relative to 1968 Census

APPENDIX C.4

COMPUTER PROGRAM DEMOG


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0001 C PROGRAM TO MERGE THE FILE CREATED
0002 C IN THE IMMIGRATION BLOCK WITH THE
0003 C BASE YEAR FILE. THE FAMILY UNIT
0004 C IDENTIFIERS MAINTAIN THEIR SEQUENCE.
0005 C
0006 C IPRT = PRINTER UNIT NUMBER.
0007 C DNAME1 = BASE YEAR TAPE UNIT NO.
0008 C IRD2 = IMMIGRATION TAPE UNIT NUMBER
0009 C DNAME3 = MERGED TAPE UNIT NUMBER.
0010 C
0011 DIMENSION NDATA(36)
0012 REAL*4 DNAME1/'TAPEIN',DNAME3/'TAPEOUT'//
0013 MXUNIT=0
0014 ICNT=0
0015 IPRT=0
0016 IRD=15
0017 IFGF=0
0018 CONTINUE
0019 CALL READ(NDATA,1,EOF,DNAME1)
0020 IF(1,EOF.NE.0) GO TO 777
0021 IF(NDATA(2).GT.MXUNIT) MXUNIT=NDATA(2)
0022 CALL WRITE(NDATA,DNAME3)
0023 ICNT=ICNT+1
0024 GO TO 88
0025 CONTINUE
0026 READ(IRD,10,END=999) (NDATA(I),I=1,23)
0027 FORMAT(23A4)
0028 NDATA(2) = NDATA(2) + MXUNIT
0029 CALL WRITE(NDATA,DNAME3)
0030 ICNT=ICNT+1
0031 GO TO 777
0032 WRITE(IPRT,666) ICNT,IWR
0033 FORMAT(IH1,19,' RECORDS WRITTEN TO UNIT',I3)
0034 CALL EXIT
0035 END

```

88

777

10

999

666

17/15/11

DATA = 740877

PLK DATA

20

PROGRAM IV G LEVEL

00003100
00003200
00003300
00003400

BLOCK DATA
CURRENT/ALL/IC,IN
DATA IC,IN/IC,IN
END

0001
0002
0003
0004


```
C ** VARIABLE DEFINITION **
C LYCULT = FAMILY IDENTIFIER FOR LAST YEAR,SIZE=22,BASE YEAR IS 7FRD.
C
C UNITNO = UNIT FAMILY UNIT,INTEGER ARRAY,SIZE=22,VALUES=1,2,.....,15,000.
C PROVIN = PROVINCE,INTEGER ARRAY,SIZE=22,CODES AS FOLLOWS:
C 1=NEWF.
C 2=PI1.
C 3=EN.S.
C 4=EN.I.
C 5=PU.
C 6=UN.
C 7=MAN.
C 8=ASK.
C 9=ALTA.
C 10=ER.C.
C SIZE = FAMILY SIZE,INTLGER ARRAY OF SIZE 22.
C
C DLPNCY = DEPENDENCY STATUS,INTEGER ARRAY,SIZE=22,CODES AS FOLLOWS:
C 0=HEAD
C 1=WIFE
C 2=CHILDREN
C RSTAT = MARITAL STATUS,INTEGER ARRAY,SIZE=22,CODES AS FOLLOWS:
C 1=SINGLE
C 2=MARRIED
C 3=OTHER
C 4=MARRIED WITH SPOUSE ABSENT
C AGE = AGE,INTEGER ARRAY,SIZE=22.
C SEX = SEX,INTEGER ARRAY,SIZE=22,CODES AS FOLLOWS:
C 1=MALE
C 2=FEMALE
C
C MAJIN = MAJOR SOURCE OF INCOME,INTEGER ARRAY,SIZE=22,CODE AS FOLLOWS:
C 1=INTEREST,DIVIDENDS AND OTHER INVESTMENT.
C 2=PS
C 3=NFSP
C 4=WD
C 5=NO INCOME.
C WKSCHL = WEEKS IN SCHOL,INTEGER ARRAY,SIZE=22.
C WKEMPFL = WEEKS EMPLOYED,INTEGER ARRAY,SIZE=22.
C WKUNEM = WEEKS UNEMPLOYED,INTEGER ARRAY,SIZE=22.
C WKRLF = WEEKS IN NON-LABOUR FORCE,INTEGER ARRAY,SIZE=22
C EDUCTN = EDUCATION STATE,INTEGER ARRAY,SIZE=22,CODES AS FOLLOWS:
C 1=GRADE 9
C 2=GRADE 10
C 3=GRADE 11
C 4=GRADE 12
C 5=GRADE 13
C 6=CAAT 1
C 7=CAAT 2
C 8=CAAT 3
C 9=UNIV. 1
C 10=UNIV.2
C *MIDUC = SPECIAL EDUCATION CODE FOR MARRIAGE ROUTINES,INTEGER VARIABLE
C 1=LESS THAN GRADE 9
C 2=GRADE 9-GADE 13
C 3=COLLEGE OR UNIVERSITY.
C YRACT = APRIL ACTIVITY STATUS, INTEGER ARRAY, SIZE=22.
```



```

C      1 TO 13=AS IN EDUCTN.
C      14=UNEMPLOYED
C      20=EMP.
C      21=UNEMP.
C      22=EMP.
C      23=AGE LESS THAN 14
C      24=AGE MORE THAN 14
C      25=WEIGHTING FACTOR. INTEGER ARRAY, SIZE=22.
C      TYPE = EMPLOYMENT CATEGORY, INTEGER ARRAY, SIZE 22.
C      1=PERSON NOT SUBJECT TO UNEMPLOYMENT.
C      2=UNEMPLOYABLE PERSON.
C      3=NOT ASSIGNED.
C      EMPINC = WAGES, SALARIES, MIL. PAY AND SELF-EMPLOYMENT INCOME, INTEGER(22)
C
C      INTRST = INTEREST (BONDS, DEPOSITS, SAVINGS), INTEGER ARRAY, SIZE=22.
C      DIVDVS = DIVIDENDS, INTEGER ARRAY, SIZE=22.
C      RETIRE = RETIREMENT PENS., SUPER. AND ANNUITIES, INTEGER ARRAY, SIZE=22.
C      OTHER = OTHER MONEY INCOME, INCOME ARRAY, SIZE=22. (INCLUDES INCOME
C              ROOMERS AND BOARDERS)
C      TOTAL = TOTAL MONEY INCOME
C
C      DATUM = MATRIX, INTO WHICH IS READ THE DATA FOR EACH INDIVIDUAL IN
C              THE FAMILY UNIT. INTEGER ARRAY (DATUM(1,J)) WHERE J=1,22 AND
C              J=1,23,11. INDEX=ITEM INDEX, J. INDEX=RECORD INDEX.
C
C      ** END OF VARIABLE DEFINITION **
C
C      COMMON/DETAIL/LYUNIT(22),UNITNG(22),PROVIN(22),SIZE(22),
C      A DEPNCY(22),MSTAT(22),AGE(22),SEX(22),MAJSIN(22),WKSCHL(22),
C      B WKEMP(22),WKUNEM(22),WKRLF(22),EDUCTN(22),YRACT(22),WEIGHT(22),
C      C TYPE(22),EMPINC(22),INTRST(22),DIVDVS(22),RETIRE(22),OTHER(22),
C      D TOTAL(22),NDUMMY(22)
C
C      EQUIVALENCE STATEMENT GIVES SAME STORAGE LOCATIONS FOR
C      DATUM(1,1)...,DATUM(22,1) AND LYUNIT(1)...,LYUNIT(22),
C      DATUM(1,2)...,DATUM(22,2) AND UNITNG(1)...,UNITNG(22),
C      DATA 1X/400,721/
C
C      DIMENSION DATUM(22,24),ISBUNT(22,22),REGION(22)
C      EQUIVALENCE (DATUM(1,1),LYUNIT(1))
C      INTEGER UNITNG,PROVIN,DEPNCY,AGE,SEX,WKSCHL,WKEMP,WKUNEM,
C      A SIZE,WKRLF,EDUCTN,YRACT,TYPE,REGION,EMPINC,
C      B WEIGHT,RETIRE,DIVDVS,OTHER,TOTAL,DATUM
C
C      COMMON/REGTRY/UPOP(5,2,15,3,3),KEMIGR(5,2,15,3),
C      1 KMARIG(5,2,10,3),KDFATH(5,2,15),KBIRTH(5,2,10),
C      2 KDIVU(5,2,10),KINDEP(5,2,10),DFAM(5,16)
C
C      INTEGER DFAM,OPOP
C      DIMENSION NDAT(22)
C      DIMENSION PRG1GR(2626)
C      PRGAL#1=PRGAL1/TAPEIN ,/ ,DNAML2/'FT,SE001' /
C      EQUIVALENCE (PRG1GR(1),UPOP(1,1,1,1,1))
C
C      OPOP(1,5,2,14,10,ASTAT) : REGION, IDY=1+DEPNCY, IA=1+AGE/5=1,15
C      DFAM(1,SIZE)
```



```

C KDELATH(R,SEX,IA)
C KLMIGR(R,SEX,IA,MSTAT)
C KINDEP(R,SEX,JA) ,KIDIVU(SAME)
C KINTP(R,EST,JA)
C KMARKR(R,DLX,JA,FCUC)
C DATA STATEMENT SETS LIMITS OF DU LOOPS.
C
0012 DATA IMIN1,JMIN1,IMAX1,IMAX2,JMAX1/3#1,4,22,24/
0013 DATA IMIN3,JMAX2,KMIN,KMIN1/2,23,3,2/
C
C DEVICE LOGICAL UNITS ASSIGNED.
C ITAPE1=INDIVIDUAL RECORDS OF FAMILY UNIT = 30.--INPUT MASTER FILE.
C ITAPE2=EMIGRATION TAPE RECORDS = 31.
C ITAPE3=DEATH TAPE RECORDS = 31.
C ITAPE REPRESENTS MARRIAGE POOL TAPE,NEW MASTER FILE TAPE OR
C DEATH-EMIGRATION TAPE (I.E. WPOOL,MAINT,ITAPE2,RESPECTIVELY).
C
C COMMON/ALL/IPRNT,IN
0014 DATA MAINT,WPOOL/25,26/
0015 DATA ITAPE1,ITAPE2,ITAPE3/30,31,31/
0016 DATA LEUD/0/
C
0017 CALL PTBIC('DEMOGRAPHIC BLOCK STATISTICS@')
0018 CALL READIN
0019 IFCF=0
0020 NEWID=0
0021
C INITIALIZE DATUM TO ZERO.
C
0022 DO 400 I=1,25J0
0023 REGITR(1)=0.
C
C INITIALIZE ERROR FLAG
0024 IEFLAG = 0
C
C
0025 DO 2 J=JMIN1,JMAX1
0026 DO 2 I=IMIN2,IMAX2
0027 2 DATUM(I,J)=0
C
C READ AN INDIVIDUAL RECORD(IE. FIRST INDIVIDUAL IN A FAMILY UNIT)
C FROM TAPE(ITAPE1).
C
0028 CONTINUE
0029 READ(ITAPE1,10,FND=99) (DATUM(1,J),J=JMIN1,JMAX2)
0030 FORMAT(23A4)
0031 11 FORMAT(24A4)
C
0032 IF(DEPNY(1),EQ,0) GO TO 69
0033 WRITE(IPRNT,169) (DATUM(1,J),J=1,8)
0034 FORMAT(IX,'ERROR*** 1ST RECORD IS NOT HEAD',/IX,8I7)
0035 GO TO 77
0036 69 NSIZE = SIZE(1)
C
C CHECK SIZE FAMILY UNIT.
0037 IF(NSIZE-1)84,4,5

```



```

0070 C CHECK IF THE DECEASED WAS THE ONLY ONE LEFT IN THE FAMILY UNIT, I.E. NSIZE LESS
0071 C THAN OR EQ. TO ONE.
0072 C
0073 IF (NSIZE - 1) 12, 11, 71
0074 C CHECK IF FIRST OR SECOND INDIVIDUAL DECEASED
0075 71 IF (1-2) 72, 72, 73
0076 C IF HEAD SECOND INDIVIDUAL NOW BECOMES HEAD
0077 72 II = 3 - I
0078 DEPNCY(II) = 0
0079 C CHECK MARITAL STATUS
0080 IF (NSTAT(II) - 1) 73, 73, 73
0081 C MARRIED INDIVIDUAL NOW CODED AS OTHER = 3
0082 73 NSTAT(II) = 3
0083 73 IF (I - NSIZE) 79, 80, 80
0084 C MOVE RECORDS UP TO FILL IN VACATED SPACE OF DECEASED
0085 79 II = I + 1
0086 C
0087 DO 81 K = II, NSIZE
0088 C
0089 DO 81 J = JMIN1, JMAX1
0090 C
0091 DATUM(K-1, J) = DATUM(K, J)
0092 C
0093 DO 82 J = JMIN1, JMAX1
0094 C
0095 ZERO
0096 82 FILL LAST FAMILY RECORD
0097 DATUM(NSIZE, J) = 0
0098 NSIZE = NSIZE - 1
0099 C
0100 GO TO 13
0101 C
0102 15 AGE(1) = AGE(1) + 1
0103 I = I + 1
0104 13 CONTINUE
0105 C INITIALIZE SUBUNIT MATRIX MAP, MAKE PROVISION FOR NSIZE
0106 C IN TOTAL SUBUNITS.
0107 C
0108 DO 19 I = IMIN1, NSIZE
0109 DO 19 J = JMIN1, JMAX2
0110 19 ISUBUNT(I, J) = 0
0111 DO 18 J = JMIN1, NSIZE
0112 18 ISUBUNT(1, J) = 1
0113 C START OF BIRTH ROUTINE.
0114 C
0115 NSAVE = NSIZE
0116 DO 24 I = IMIN1, NSIZE
0117 C CHECK INDIVIDUAL TO DETERMINE IF MALE OR FEMALE.
0118 C
0119 IF (SEX(1) - 2) 24, 25, 24
0120 C
0121 25 NCHILD = 0
0122 C
0123 IS FEMALES, STATUS 1.) HEAD OF FAMILY UNIT (= 0)
0124 2.) WIFE (= 1)

```


C IF WIFE OR FEMALE HEAD OF FAMILY UNIT,SUM CHILDREN(NCHILD),CHILD=DEPNY CODE=2

0097
0098
0099
0100
0101

IF(DLPNCY(1)-1)/6,28,32
DO 29 J=1,NS1Z
IF(DLPNCY(J)-2)/29,30,29
NCHILD=NCHILD+1
29 CONTINUE

C CALL BIRTH SUBROUTINE.

0102

32 CALL BIRTH(MSTAT(1),AGE(1),NCHILD,PROVIN(1),KONCLU)

C IF KONCLU=0 THEN NO BIRTH OCCURRED IN THE FAMILY.

C IF KONCLU NOT EQUAL TO ZERO THEN THERE IS A BIRTH IN THE FAMILY.
C THE SEX OF THE NEW BORN BABY IS GIVEN BY THE VALUE OF KONCLU(1 OR 2)

0103
0104

IF(KONCLU)34,24,34
34 ISAVE=NSAVE+1

C CREATION OF NEW MEMBER TO FAMILY

0105

801 CONTINUE

PROVIN(NSAVE)=PROVIN(1)
REGION(NSAVE)=REGION(1)
UNITNO(NSAVE)=UNITNO(1)
DEPNY(NSAVE)=1
MSTAT(NSAVE)=1
AGE(NSAVE)=0
SEX(NSAVE)=KONCLU
MAJSIN(NSAVE)=5
EDUCTN(NSAVE)=19
WEIGHT(NSAVE)=WEIGHT(1)
YPACT(NSAVE)=25
TYPE(NSAVE)=3
WRNLF(NSAVE)=52

0115

C REGISTER MOTHER

IF=REGION(1)
MS=1+MSTAT(1)-L*(MSTAT(1)/2)
IA=(AGE(1)-10)/5
IF(IA>GT.10) IA=10
IF(IA<LT.1) IA=1
KBIRTH(IR,MS,IA)=KBIRTH(IR,MS,IA)+WEIGHT(1)

0114

IF(DLPNCY(1)-2)/36,35,35
36 ISRUNT(1,NSAVE)=1
GO TO 24
35 ISRUNT(1,1)=0
ISRUNT(1,1)=1
ISRUNT(1,NSAVE)=1

0119
0120

24 CONTINUE

C DIVORCE ROUTINE.
C ONLY THE 1ST AND/OR 2ND INDIVIDUAL CAN BE MARRIED.

0121
0122
0123

ISACR=0
ISOW=1
IF(MSTAT(1),NL,2) GO TO 110


```

0170 C READ IS MARRIED WITH SPOUSE PRESENT.
0171 IF (Z) = 1
0172 IF (DEFUNC(2)-1) 103,101,103
0173 IF (MSTAT(2)-1) 100,102,103
0174 IF (SEX(1)*X(1)-1) 100,100,103
0175 IF (IPRNT(IPRNT,104)) (DATUM(1,J),J=1,8),I=1,2)
0176 FORMAT(IX,'ERROR*** POSITION 17/1X,817/1X,817)
0177 SEX(1)=1
0178 SEX(2)=2
0179 IF (IFLAG(1,Q,Q)) GO TO 105
0180 GO TO 150
0181 CALL FENDU(IX,IY,X)
0182 IX=IY
0183 IF = .S + X
0184 IF = IF + 1
0185 GO TO 115
0186 C CHECK IF HEAD MARRIED WITH SPOUSE ABSENT.
0187 110 IF (MSTAT(1).NE.4) GO TO 150
0188 IH=1
0189 IROW=1
0190 C THERE ARE MARRIED PEOPLE IN THE F.U.. DECIDE ABOUT DIVORCE.
0191 115 CALL DIVORC(AGE(IH),SEX(IH),KONCLU)
0192 IF (KONCLU) 116,150,116
0193 116 DO 117 I=1,IROW
0194 C REGISTER THE DIVORCES.
0195 C
0196 IR=REGION(I)
0197 IS=SEX(I)
0198 IA=(AG(1)-10)/2
0199 IF (IA.GT.10) IA=10
0200 IF (IA.LT.1) IA=1
0201 KDIVO(IR,IS,IA)=KDIVO(IR,IS,IA) + WEIGHT(I)
0202 117 MSTAT(I)=3
0203 IDVORC=IROW
0204 C DIVORCE WILL OCCUR
0205 C IF DIVORCED WIFE EXISTS WILL TAKE CUSTODY OF CHILDREN.
0206 IF (IROW-1) 150,150,118
0207 118 IF (NS12E-2) 119,120,120
0208 119 WRITE(IPRNT,107) (DATUM(1,J),J=1,8)
0209 107 FORMAT(IX,'ERROR*** POSITION 20/1X,817)
0210 GO TO 150
0211 120 DO 121 K=2,NSAVE
0212 121 UNT(2,K) - 1 UNT(1,K)
0213 122 150 UNT(1,K) - 0
0214 C SO FAR IROW MANY INDIVIDUALS HAVE BEEN DIVORCED.
0215 C NOTICE THAT IROW=1, IUP2.
0216 C MARRIAGE AND INDEPENDENCE ROUTINE.
0217 C CHECK THE REST FOR MARRIAGE AND INDEPENDENCE.
0218 150 I=IROW
0219 IF (IH.LE.1) GO TO 45
0220 IF (IDSWCH.NE.0) IH=2
0221 IM=IDSWCH + 1
0222 IF (IM.GT.NSIZE) GO TO 315
0223 DO 37 I=IM,NSIZE

```



```
0178 C CHECK IF H/SHE IS MARRIED (I.E. MAR.STATUS=2 OR 4)
0179   MAR=STAT(1)
0180   MAR=MAR-2*(MAR/2)
0181   IF(MAR) 31,35,38
0182   IF(1,LE,1ROW) GO TO 37
0183   WRITE(1PRNT,151) I,((DATUM(K,J),J=1,8),K=1,NSIZE)
0184   151 FORMAT(1X,'ERROR** POSITION 3 FOR RECORD #',13/22(1X,8I7/))
0185   GO TO 37
0186 C IS SHE (F) PEEPER AGE?
0187   31 IF(AGE(1)-14) 37,40,40
0188   40 CALL MARREL(AGE(1),SEX(1),REGION(1),MSTAT(1),KONCLU)
0189   C KONCLU NOT EQUAL TO ZERO THEN INDIVIDUAL WILL GET MARRIED.
0190
0191 C REGISTER THE BRAVE WHO DECIDED TO GIVE UP HIS/HER FREEDOM.
0192   IF(KONCLU)41,42,41
0193   41 ISBUNT(1,1)=0
0194   ISLUNT(2,1)=0
0195   ISLUNT(1,1)=-1
0196   IF(REGION(1)
0197     IS=SEX(1)
0198     IA=(AGE(1)-10)/5
0199     IF(IA.GT.10) IA=10
0200     IF(IA.LT.1) IA=1
0201     CALL TDCDS(FDOCTN(1),IE)
0202     KMARRG(IR,IS,IA,IE) = KMARRG(IR,IS,IA,IE)+WEIGHT(1)
0203   GO TO 37
0204
0205 C CHECK IF INDIVIDUAL IS ALREADY INDEPENDENT, I.E. IS 'ISBUNT' NOT EQ. TO ZERO.
0206   42 IF(ISLUNT(1,1))37,43,37
0207
0208 * ISBUNT(1,1)=0 THEREFORE INDIVIDUAL NOT YET INDEPENDENT, CALL
0209 INDEPENDENT SUBROUTINE TO DETERMIN IF INDIVIDUAL WILL BECOME
0210 INDEPENDENT, I.E. IF KONCLU NOT EQ. TO ZERO.
0211
0212 43 CALL INDEPT(AGE(1),SEX(1),KONCLU)
0213   IF(KONCLU)44,37,44
0214   44 ISBUNT(1,1)=0
0215   ISLUNT(2,1)=0
0216   ISBUNT(1,1)=1
0217   C REGISTER THE RECURRING INDEPENDENT.
0218   IF=REGI(R(1)
0219   IS=SEX(1)
0220   IA=(AGE(1)-10)/5
0221   IF(IA.GT.10) IA=10
0222   IF(IA.LT.1) IA=1
0223   KINDEP(IR,IS,IA)=KINDEP(IR,IS,IA) + WEIGHT(1)
0224
0225 C
0226 37 CONTINUE
0227 C DETERMINE IF NEW FAMILY UNIT IS TO BE CREATED.
0228
0229 315 DO 32 I=1PIN1,NSIZE
0230   LYUNIT(I)=UNITIND(I)
0231   1, (ISLUNT(I,1))=4,5,6,4
```



```

0215 C NEW FAMILY UNIT NL.
      54 NEWID=NEWID+1
C DECIDE WHETHER OR NOT THE FAMILY WILL EMIGRATE USING THE
C CHARACTERISTICS(DECISION) OF THE FAMILY HEAD. KONCLU=DECISION,0=NO,1=YES.
C
C
      CALL EMIG(AGE(I),MSTAT(I),SEX(I),KONCLU)
C COUNT INDIVIDUALS IN THE NEW FAMILY UNIT.
C AND ...
C IF 'KONCLU' IS LG. TO 1 THEN
C RECFD FAMILY UNIT ON DEATH-EMIGRATION REGISTRY, I.E. WRITE DATUM(I,J)
C WHERE J=1,28 AND I=1,NSIZE,NOTE THAT J=28 IS EMIGRATION CODE
C WHICH=0 FOR EMIGRATING FAMILY, ITAPE2=LOGICAL UNIT FOR DEATH-EMIGRATION
C TAPE.
      KOUNT=0
      DO 55 J=JMIN1,NSAVE
        IF (ISBUNT(1,J)) 56,55,56
      56 KOUNT=KOUNT+1
        IF (KONCLU.LQ.0) GO TO 55
        IF (KONCLU.LQ.0) GO TO 55
C RECORD ALL INDLS OR REGISTRY.
      IF=RECOUN(J)
      IS=SEX(J)
      IA=I+AGE(J)/5
      IF (IA.GT.15) IA=15
      MS=MSTAT(J)
      IF (MS.GT.3) MS=2
      KEMIGR(IR,IS,IA,MS)= KEMIGR(IR,IS,IA,MS) + WEIGHT(I)
C
      55 CONTINUE
      DEPNY(I) = 0
C
      DO 560 J=JMIN1,NSAVI
        IF (ISBUNT(1,J)) 560,550,560
      560 SIZE(J)=KOUNT
      550 CONTINUE
C
C IF 'ISBUNT'=1 CREATE A RECORD ON THE NEW PERIOD TAPE.(ITAPE=MAINT)
C IF 'ISBUNT'=-1 MARRIAGE POOL TAPE IS UPDATED. (ITAPE=MPOOL)
C
      IF (ISBUNT(1,1)-1) 57,56,57
      ITAPE = MAINT
      GO TO 59
      57 IF (ISBUNT(1,1)+1) 61,60,61
C
      61 WRITE(IPENT,85) ISBUNT(1,1),1
      85 FORMAT(IX,'ERROR,ISBUNT = ',16,' INDIVIDUAL = ',16/)
C
      60 ITAPE = MPOOL
C
C IF 'ISBUNT(1,J)' IS NOT EQ. TO ZERO THEN WRITE ON APPROPRIATE
C TAPE THE RECORD AND KEEP COUNT ON IT.
C
      59 IF (KONCLU.NE.0) ITAPE=ITAPE2
C IF NEW FAMILY DOES NOT EMIGRATE OR THE HEAD IS NOT FOR MARRIAGE
C FIND THE NEW YEAR'S RESIDENCE PROVINCE.

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```

0244 IF (ITAPE, 'G,MAINT') CALL LOGCN(PROVIN(I),TOTAL(I),AGE(I))
0245 C CONTINUE
0246 DO 62 J=JMIN1,PMAX1
0247   IF (ISUNIT(1,J)) GOTO 63
0248   DATUM(J,JMAX1) = 0
0249 C UPDATE THE IND/L'S PROVINCE.
0250   PROVIN(J) = PROVIN(I)
0251 C
0252 IF (ITAPE, 'NE,MPPOOL') GO TO 657
0253 CALL EDUCOD(EDUCIN(J),NEDUC)
0254   IA = (AGE(J)-10)/5
0255   IF (IA,GT,10) IA=10
0256   IF (IA,LT,1) IA=1
0257   DATUM(J,JMAX1)=NEDUC+10*IA+1000*SEX(J)+10000*REGION(J)
0258   WRITE(ITAP1,11) (DATUM(J,K),K=JMIN1,JMAX1)
0259   GO TO 62
0260 657 IF (ITAPE, 'LG,ITAPE2') GO TO 65
0261   WRT1 (ITAPE,10) (DATUM(J,K),K=JMIN1,JMAX2)
0262   LOGCN=LOGCN + 1
0263   CONTINUE
0264 C
0265 53 CONTINUE
0266   GO TO 12
0267 C
0268 WHEN LAST FAMILY RECORD ENCOUNTERED BY READ STATEMENT AT FIRST OF
0269 C PROGRAM,CLOSE FILES ON TAPES AND EXIT.
0270 C
0271 59 CALL STAT
0272 C END DEATH-EMIGRATION FILE ITAPE2(31) ---DO NOT REWIND IT
0273   END FILE ITAPE2
0274 C WRITE THE REGISTRY ARRAYS.
0275   WRITE(ITAPE2,11) (REGITR(I),I=1,2630)
0276   END FILE ITAPE2
0277 C END 6 REWIND MARRIAGE POOL TAPE (MPPOOL)
0278   END FILE MPOOL
0279   REWIND MPOOL
0280 C NEW PERIOD'S TAPE MUST REMAIN UNTOUCHED.
0281 C
0282 C
0283   WRITE (IPRNT,7890)
0284   FORMAT(IX,'WELL DONE ')
0285 C CALL NOW MARRIAGE MATCHING ROUTINE FOR FAMILY FORMATION FROM
0286 C POTENTIAL BRIDGES AND GROOMS...
0287   CALL PAR66(MPOOL,MAINT,IDEV,LOG9)
0288 C
0289   CALL EXIT
0290   END

```


0001

SUBROUTINE READIN

C
C SUBROUTINE TO READ IN 1.) SURVIVAL PROBABILITIES
C 2.) EMIGRATION PROBABILITIES 3.) PROBABILITIES FOR GIVING
C BIRTH 4.) PROBABILITY OF GETTING MARRIED 5.) PROBABILITY
C OF BEING DIVORCED 6.) PROBABILITY OF STAYING IN PRESENT
C REGION 7.) CUMULATIVE PROBABILITY OF MOVING WITHIN REGIONS AND
C 8.) CUMULATIVE PROBABILITY OF MOVING FROM ATLANTIC OR PRAIRIE
C PROVINCES.

0002

COMMON/MOR/PSURV(100,2),CURFAC(10)

0003

COMMON/EMIG/PREN(15,2,2)

0004

COMMON/LETHS/C1(35,3),C2(35,3),C3(35,3),C4(35,3)

0005

COMMON/PMRG/PMAR(15,2,5,2)

0006

COMMON/DIV/PRODIV(56,2)

0007

COMMON/PSSS/ PST1(25),PST2(25),PST3(25),PST4(25),PST5(25)

0008

COMMON/ALL/10,IN

C CORRECTION FACTORS

0009

READ(IN,10) CORFAC

0010

FORMAT(10F8.5)

C SURVIVAL PROBABILITIES

0011

READ(IN,10) PSURV

C EMIGRATION PROBABILITIES

0012

READ(IN,10) PREM

C PROBABILITIES FOR GIVING BIRTH

0013

READ(IN,10) C1

0014

READ(IN,10) C2

0015

READ(IN,10) C3

0016

READ(IN,10) C4

C PROBABILITIES FOR GETTING MARRIED

0017

READ(IN,10) PMAR

C PROBABILITY FOR DIVORCE

0018

READ(IN,10) PRODIV

C PROBABILITIES FOR STAYING IN PRESENT REGION

0019

READ(IN,10) PST1

0020

READ(IN,10) PST2

0021

READ(IN,10) PST3

0022

READ(IN,10) PST4

0023

READ(IN,10) PST5

C CUMULATIVE TRANSITION PROBABILITIES FOR REGIONS,

C ATLANTIC PROVINCES AND PRAIRIE PROVINCES

C

0024
0025
0026

0027
0028

READ (IN,10) TRIP
READ (IN,10) TRIP
READ (IN,10) TRIP

C

RETURN
END

0001		SUBROUTINE STAT	00001000
	C	COMMON/REGTRY/UPOP(5,2,15,3,3),KEMIGR(5,2,15,3),	00002000
	C	1 KMARRO(5,2,10,3),	00003000
	C	2 KDEATH(5,2,10),KBIRTH(5,2,10),KDIVO(5,2,10),	00004000
	C	3 KINSEP(5,2,10),OFAM(5,10)	00005000
	C	DIMENSION NCNT1(2,2,15,5),NCNT2(3,10,5),NUMMAR(2,10,5),	00006000
	C	1 KTAB(5,2,10,3),ROW2(3,3,3,15),CUL2(3,3,3,5),	00007000
	C	2 ROW1(3,3,15),COL1(3,3,5),ROW(16),CUL(5)	00008000
	C	INTEGER OFOP,OFAM,ROW2,COL2,ROW1,COL1,ROW,COL	00009000
	C	DATA NCNT1,NUMMAR,NCNT2/35000/	00010000
	C	DATA ROW2,COL2,ROW1,COL1,ROW,CUL/741*0/	00011000
	C	REAL*8 TABL(8)/POPULATN,EMIGRATN,MARRIAGE,	00012000
	C	1 DEATHS,BIRTHS, DIVORCS, INDEPND,	00013000
	C	2 FAMILIES, REGION(5)/ATLANTIC, QUEBEC, ONTARIO,	00014000
	C	3 PRAIRIES, C.C., SEX(3)/MALE, FEMALE,	00015000
	C	4 MALEBFLM, COUNT(3)/, 2*(COUNTD),	00016000
	C	REAL*8 AGE2(10)/, 15 - 19,	00017000
	C	1 , 20 - 24, 25 - 29, 30 - 34, 35 - 39, 40 - 44,	00018000
	C	2 , 45 - 49, 50 - 54, 55 - 59, 60 +	00019000
	C	REAL*8 AGE1(10)/, 0 - 4,	00020000
	C	1 , 20 - 24, 25 - 29, 30 - 34, 35 - 39, 40 - 44,	00021000
	C	2 , 45 - 49, 50 - 54, 55 - 59, 60 - 64, 65 - 69,	00022000
	C	3 , 70 +	00023000
	C	EQUIVALENC (KBIRTH(1,1,1),KTAB(1,1,1,1))	00024000
	C	REAL*8 XARST(3)/SINGLE, MARRIED, OTHER	00025000
	C	SUBSCRIPT MEANINGS.	00026000
	C	IR = REGION SUBSCRIPT	00027000
	C	IS = SEX SUBSCRIPT	00028000
	C	IA = AGE SUBSCRIPT	00029000
	C	IX1,IX2 = USED TO REPRESENT MARITAL STATUS,DEPENDENCY OR	00030000
	C	EDUCATION.	00031000
	C	ASSIGN PRINTER UNIT NUMBER.	00032000
	C	COMMON/ALL/10,16	00033000
	C	DO 10 IR=1,	00034000
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PO	STAT	DATE = 74087	17/15/11
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0019	C		00053000
0020	C		00054000
0021	C		00055000
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0045	C		00079000
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0058	C		00092000
0059	C		00093000
0060	C		00094000

```
DO 11 IA=1,10
DO 11 IS=1,2
NCNT2(1,1A,IR)=NCNT2(1,1A,IR)+KBRTH(IR,IS,IA)
NCNT2(2,1A,IR)=NCNT2(2,1A,IR)+KDIVG(IR,IS,IA)
NCNT2(3,1A,IR)=NCNT2(3,1A,IR)+KINDEP(IR,IS,IA)
DO 11 IX1=1,3
NUMMAR(1S,1A,IR)=NUMMAR(1S,1A,IR)+KMARRG(IR,IS,IA,IX1)
NCNT1(2,1S,1A,IR)=NCNT1(2,1S,1A,IR)+KEMIGR(IR,IS,IA,IX1)
DO 11 IX2=1,3
NCNT1(1,1S,1A,IR)=NCNT1(1,1S,1A,IR)+OPOP(IR,IS,IA,IX1,IX2)
CONTINUE
DO 12 IA=11,15
DO 12 IS=1,2
DO 12 IX1=1,3
NCNT1(2,1S,1A,IR)=NCNT1(2,1S,1A,IR)+KEMIGR(IR,IS,IA,IX1)
DO 12 IX2=1,3
NCNT1(1,1S,1A,IR)=NCNT1(1,1S,1A,IR)+OPOP(IR,IS,IA,IX1,IX2)
CONTINUE
CONTINUE
DO 30 11=1,5
DO 31 1X=1,16
COL(11)=COL(11)+UFAM(11,1X)
POW(1X)=ROW(1X)+UFAM(11,1X)
DO 32 1X=1,10
DO 32 1X2=1,3
COL(3,1X2,11)=COL(3,1X2,11)+NCNT2(1X2,1X,11)
POW(1X,1X2,1X)=POW(1X,1X2,1X)+NCNT2(1X2,1X,11)
DO 33 1S=1,2
DO 34 1Z=1,10
COL(1,1,13,11)=COL(1,1,13,11)+NUMMAR(13,12,11)
ROW(1,1,13,11)=ROW(1,1,13,11)+NUMMAR(13,12,11)
COL(2,1,13,11)=COL(2,1,13,11)+KDEATH(11,13,12)
ROW(2,1,13,12)=ROW(2,1,13,12)+KDEATH(11,13,12)
DO 35 1A=1,3
COL2(1,14,13,11)=COL2(1,14,13,11)+KTAB(11,13,12,14)
POW2(1,14,13,12)=POW2(1,14,13,12)+KTAB(11,13,12,14)
COL2(3,13,14,11)=COL2(3,13,14,11)+KEMIGR(11,13,12,14)
POW2(3,13,14,12)=POW2(3,13,14,12)+KEMIGR(11,13,12,14)
CONTINUE
DO 36 1A=1,2
COL2(2,14,13,11)=COL2(2,14,13,11)+NCNT1(14,13,12,11)
ROW2(2,14,13,12)=ROW2(2,14,13,12)+NCNT1(14,13,12,11)
CONTINUE
CONTINUE
DO 37 1Z=11,15
COL(2,13,11)=COL(2,13,11)+KDEATH(11,13,12)
POW(2,13,11)=POW(2,13,12)+KDEATH(11,13,12)
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0001 DO 38 I4=1,2 00077270
0002 CUL2(3,13,14,11)=CUL2(3,13,14,11)+KEMIGR(11,13,12,14) 00077280
0003 FOW1(3,13,14,12)=FOW1(3,13,14,12)+KEMIGR(11,13,12,14) 00077290
0004 CONTINUE 00077300
0005 DO 39 I4=1,2 00077310
0006 CUL2(2,14,13,11)=CUL2(2,14,13,11)+NCNT1(14,13,12,11) 00077320
0007 ROW2(2,14,13,12)=ROW2(2,14,13,12)+NCNT1(14,13,12,11) 00077330
0008 CONTINUE 00077340
0009 CONTINUE 00077350
0010 CONTINUE 00077360
0011 CONTINUE 00077370
0012 CONTINUE 00078000
0013 CONTINUE 00079000
0014 CONTINUE 00080000
0015 CONTINUE 00081000
0016 CONTINUE 00082000
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0033 CONTINUE 00099000
0034 CONTINUE 00100000
0035 CONTINUE 00101000
0036 CONTINUE 00102000
0037 CONTINUE 00103000
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0042 CONTINUE 00108000
0043 CONTINUE 00109000
0044 CONTINUE 00110000
0045 CONTINUE 00111000
0046 CONTINUE 00112000
0047 CONTINUE 00113000
0048 CONTINUE 00114000
0049 CONTINUE 00115000
0050 CONTINUE 00116000
0051 CONTINUE 00117000

```

WRITE OUT STATISTICAL TABLES.

```

13 FORMAT(1H1,20X,'TABLE FOR ',A8,' DISTRIBUTIONS',A8,40X,
1 'PAGE ',14/19X,36(' ')/10X,'SEX = ',A8/9X,16(' ')/)
14 FORMAT(30X,'REGION ----->',1X,'AGE CATEGORY',16X,2(' ')/1X,
1 12(' ')/5X,5(15X,A8),4X,'ROW TOT.',5X,5(15X,'*****'),
2 4X,8(' ')/)
3 15(2X,A8,' ----->',3X,17,4(16X,17),2X,'*',18//),20X
4 8(' ')/4(15X,8(' ')/2X,'COL TOT. ----->',2X,18,4(15X,18)//)
23 FORMAT(30X,'REGION ----->',1X,'AGE CATEGORY',16X,8(' ')/1X,
1 12(' ')/5X,5(15X,A8),4X,'ROW TOT.',5X,5(15X,'*****'),
2 4X,8(' ')/10(2X,A8,' ----->',3X,17,4(16X,17),2X,'*',18//),
3 20X,8(' ')/4(15X,8(' ')/2X,'COL TOT. ----->',2X,18,
4 4(15X,18)//)
IP=0
DO 15 I=1,2
DO 15 IX=1,2
IP=IP+1
WRITE(10,13) TABLE(1),CUNT(IX),IP,SEX(IX)
WRITE(10,14) (REGION(IR),IR=1,5),(AGE(IA),(NCNT1(1,IX,IA,IR),
1 IR=1,5),ROW2(2,1,IX,IA),IA=1,15),(COL2(2,1,IX,IR),IR=1,5)
DO 16 IX=1,2
DO 16 IM=1,3
IP=IP+1
WRITE(10,13) TABLE(2),CUNT(IM),IP,SEX(IX)
WRITE(10,17) XAFST(18)
FORMAT(10X,'MARITAL STATUS = ',A8/9X,27(' ')/)
WRITE(10,14) (REGION(IR),IR=1,5),(AGE(IA),(KEMIGR(18,IX,IA,IM),
1 IR=1,5),FOW1(3,IX,IM,IA),IA=1,15),(COL2(3,IX,IM,IR),IR=1,5)
DO 18 IX=1,2
IP=IP+1
WRITE(10,13) TABLE(4),CUNT(IX),IP,SEX(IX)
WRITE(10,14) (REGION(IR),IR=1,5),(AGE(IA),(KDEATH(18,IX,IA),
1 IR=1,5),FOW1(2,IX,IA),IA=1,15),(COL1(2,IX,IR),IR=1,5)
DO 19 IX=1,2
IP=IP+1
WRITE(10,13) TABLE(5),CUNT(IX),IP,SEX(IX)

```



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0006 19 WRITE(10,23) (REGION(IR),IR=1,5),(AGE2(1A),(NUMMAR(1X,1A,1R),
0007 IR=1,5),ROW1(1,1X,1A),1A=1,10),(COL1(1,1X,1R),1R=1,5)
0008 10 20 17=1,5
0009 1P=1P+1
0010 11=11+4
0011 20 17=1,5) TABLE(11),CONT(1),IP,SEX(3)
0012 17=1,5) (REGION(IR),IR=1,5),(AGE2(1A),(NCNT2(1T,1A,1R),
0013 1R=1,5),ROW1(3,1T,1A),1A=1,10),(COL1(3,1T,1R),1R=1,5)
0014 00 21 17=1,5
0015 00 21 1X=1,2
0016 11=11+4
0017 1P=1P+1
0018 17=1,5) TABLE(11),CONT(1X),IP,SEX(1X)
0019 21 17=1,5) (REGION(IR),IR=1,5),(AGE2(1A),(KTAB(1R,1X,1A,1T),
0020 1R=1,5),ROW1(1,1T,1A,1A),1A=1,10),(COL2(1,1T,1X,1R),1R=1,5)
0021 1P=1P+1
0022 17=1,5) TABLE(17),CONT(1),IP,SEX(3)
0023 17=1,5) (REGION(IR),IR=1,5),(IS,(OFAM(1R,1S),IR=1,5),ROW(1S),
0024 17=1,5), (COL(1),1=1,5)
0025 22 FORMAT(50X,REGION ----->,1X,SIZE CATEGORY,15X,8('*'))/1X,
0026 13('*')/5X,5(15X,A8),4X,ROW TOT.,/5X,5(15X,*****),4X,
0027 8('*')/16(4X,12,4X,
0028 8(15X,8('*'))/2X,COL TOT. ----->,1X,18,4(15X,18)/)
0029 4(15X,8('*'))/2X,COL TOT. ----->,1X,18,4(15X,18)/)
0030 RETURN
0031 END
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```


0001 SUBROUTINE F MIGIN(AGE,MSTAT,SEX,KONCLU)
0002 COMMON/PEF AIG/PRM(13,2,2)
0003 INTEGER AGE,SEX
0004 DATA IX/273,41/

C C NAGE 13 AGE INDEX: 1 MEANS 0-14,2,3,....,8 MEANS 15-19,20-24,....,45-49
NAGE=(AGE-5)/5
IF(NAGE.GT.13) NAGE=13
IF(NAGE.LT.1) NAGE=1
MS = 2 + 2*(MSTAT/2)-MSTAT
PR = PRM(NAGE,MS,SEX)

C KONCLU=0
CALL RANDU(IX,IY,X)
IF(X-PR) 25,25,30
25 KONCLU=1
30 IX=IY
RETURN
END

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17/10/11

DATE = 74087

SURVIV

20

FORTRAN IV C LEVEL

```
0001 SUBROUTINE SURVIV(AGE,SEX,PROV,KONCLU)  
0002 INTENT (OUT) AGE,SEX,PROV  
0003 COMMON/MUR/PRSURV(100,2),CORFAC(10)  
0004 DATA IX/73,AGE/  
C  
C  
C  
0005     KAGE=1+AGE  
0006     IF (NAGE.GT.100) KAGE=100  
0007     PRUD=PRSURV(NAGE,SEX)*CORFAC(PROV)  
0008     KONCLU=1  
0009     CALL KANDU(IX,IY,X)  
0010     IX=IY  
0011     IF (X.GE.PROV) KONCLU=0  
0012     RETURN  
0013     END
```


17/15/11

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MARKGE

TO

FORTRAN IV 6 LEVEL

```
0001 SUBROUTINE MARKGE(AGE,SEX,REGION,MARKSTA,KUNCLU)
0002 INTC(AGE,AGE,SEX,REGION)
0003 CCMARK=MARK/PNAR(12,2,5,2)
0004 DATA IX/7594653/
0005
0006     MARK=1 + (MARKSTA/2)
0007     PPD = C.
0008     NA1 = (AGE-7)/5
0009     NA2 = NA1+1
0010     IF(NA2.GT.12) GO TO 20
0011     P1 = PNAR(NA1,SEX,REGION,MARK)
0012     P2 = PMAR(NA2,SEX,REGION,MARK)
0013     A1 = 7 + 5*NA1
0014     A = AGE
0015     PRG = P1 + (P2-P1)*(A-A1)/5.
0016     KUNCLU = 0
0017     CALL RANDU(IX,IY,X)
0018     IX=IY
0019     IF(X.LT.PRG) KUNCLU=1
0020     RETURN
0021     END
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```

0001      DO 100 I=1,NCHILDT,AGE,NCHILDT,PROV,KONCLD)
0002      IF (AGE .GT. 14) THEN
0003      IF (PROB .GT. 0.5) THEN
0004      IF (PROB .GT. 0.5) THEN
0005      IF (PROB .GT. 0.5) THEN
0006      IF (PROB .GT. 0.5) THEN
0007      IF (PROB .GT. 0.5) THEN
0008      IF (PROB .GT. 0.5) THEN
0009      IF (PROB .GT. 0.5) THEN
0010      IF (PROB .GT. 0.5) THEN
0011      IF (PROB .GT. 0.5) THEN
0012      IF (PROB .GT. 0.5) THEN
0013      IF (PROB .GT. 0.5) THEN
0014      IF (PROB .GT. 0.5) THEN
0015      IF (PROB .GT. 0.5) THEN
0016      IF (PROB .GT. 0.5) THEN
0017      IF (PROB .GT. 0.5) THEN
0018      IF (PROB .GT. 0.5) THEN
0019      IF (PROB .GT. 0.5) THEN
0020      IF (PROB .GT. 0.5) THEN
0021      IF (PROB .GT. 0.5) THEN
0022      IF (PROB .GT. 0.5) THEN
0023      IF (PROB .GT. 0.5) THEN

```



```
0001 SUBROUTINE DIVORC(AGE,SEX,KONCLU)  
0002 IF (AGE.LT.50) SEX  
0003 (COMMON/DIV/PRCDIV(50,2)  
C PRCDIV(NAGE,SEX) FOR AGE=NAGE+14=15 TO 70+  
C  
0004 DO 10 1X/1Y,IX,1Y  
C  
0005 NAGE=AGE-14  
0006 IF (NAGE.LT.1) NAGE=1  
0007 IF (NAGE.GT.56) NAGE=56  
0008 PPO=PRCDIV(NAGE,SEX)  
0009 KONCLU=0  
0010 CALL RANDU(IX,1Y,X)  
0011 IX=1Y  
0012 IF (X.LL.PPO) KONCLU=1  
0013 RETURN  
0014 END
```



```

0001 SUBROUTINE INDLPT(AGE,SEX,KONCLU)
0002 INTEGER AGE,SEX
0003 DIMENSION PRIND(6,2)
0004 C PRIND(1A,SEX): PROB/1Y FOR IND/L TO LEAVE HOME BY SEX AND AGE.
0005 C IA=1(17-18),2(19-20),3(21-22),4(23-24),5(25-26),6(27+ ).
0006 C
0007 DATA PRIND/.04169,.06382,.04591,.06022,.01742,.05000,
0008 DATA IX/1397247/
0009 KONCLU=0
0010 IF(AGE.LT.17) GO TO 99
0011 IA = (AGE-15)/2
0012 IF(IA.GT.6) IA=6
0013 PRUBA = PRIND(IA,SEX)
0014 C
0015 CALL RANDU(IX,IY,X)
0016 IX=IY
0017 IF(X.LE.PRUBA) KONCLU=1
0018 99 RETURN
0019 END

```


0001
0002

3000151 EDUCOD (EDUCIN,NE EDUC)
INTEGR EDUCOD
C 3000151 FOR SPECIAL EDUCATION CODE (SEE MAIN FOR DETAILS)
C

0003
0004
0005
0006

NE EDUC + (EDUCIN-12)/7
IF (NE EDUC.GT.5) NE EDUC=1
RETURN
END

THIS HAPPY PROGRAM CREATES FAMILIES BY MATCHING UP SINGLE PERSONS WHO MAY OR MAY NOT ALREADY HAVE DEFENDANTS.

```

0001 SUBROUTINE MARKG(DELV,IDEV4,IDEV,LOUD)
0002 DIMENSION NEWAGE(10,10,0),NEWEDU(3,3,6)
0003 DIMENSION IA(25),IS(4000),IC(800,24),ISUB(4000),IR(25)
0004 DIMENSION ICUPL(25,2),IFAM(25,20)
0005 DIMENSION NDAT(23)
0006 COMMON/ALL/IO,IN
0007 COMNUZ/CLCFL/M AS(2,10,2),LIST(2000,2)
0008 EQUIVALENCE(IA(1),ICUPL(1,1)),(IB(1),ICUPL(1,2))
0009 INTEGER I,A,S,SOCR
0010 INTFLGR#2 LIST,ISUB,SIZE
0011 REAL*8 CDNAME/,FILEFOCI/,
0012 REAL*8 LIR(6)/,ATLANTIC/,QUEBEC/,ONTARIO/,PRAIRIES/,
1 IB,C,34,35,39,40-44,45-49,50-54,
2 55-59,60+/
3 DATA ISCR/55/
DATA NEWAGE,NEWEDU/54*0/
0013
0014

```

INITIALIZE DATA ITEMS.

```

0015 DEFINE FILE 8(4000,120,E,IDI)
0016 IDV=ISCR
0017 NF=2
0018 NA=10
0019 IP=1
0020 IF LG=0
0021 IDV2=IDV
0022 IDV1=IDV
0023 IF=0
0024 LCV=0
0025 ICNT1=0
0026 ICNT2=0

```

START LUMP FOR 10 PROVINCES +1 PASS AT END.

```

0027      1 JJ=0
0028      ICOUNT=1
0029      JK=0
0030      DO 10 S=1,2
0031      DO 10 A=1,N
0032      DO 10 E=1,N
0033      10 RTAS(L,A,S)=0
0034      IDI=1

```

KNOW, HASTEN, TAPE ALSO SELECT 1 PROVINCE.

```

00005 READ (1,DEV1,20,END=99) (1FAM(I,1),I=1,24)
00006 IF (IP.EQ.1) ICNT1=ICNT1+1
00007 FORMAT(24A4)
00008 J121=1FAM(4,1)
00009 K=SIZE-1
00010 IF (K.EQ.0) GO TO 25

```


C CALL THE SUBROUTINE WHICH MATCHES UP THE HEADS BY
C PRODUCING A LINKED LIST.

81 CALL MATCH(SDOM,ISW)

C TLST ISW FOR ERROR CODE,IF ISW=0 ALL IS WELL OTHERWISE ALL IS NOT WELL.

C IF(ISW=0,0) GO TO 86

C WRITE(11,67) ISW

C CALL EXIT

86 MALF=0

87 FORMAT(///10X,'ERROR CODE ISW=',I4,/10X,'ABNORMAL EXIT.')

K=0

DO 250 I=1,NA

DO 250 J=1,NE

MALF=MALF+MALAS(J,I,1)

K=K+MALAS(J,I,SDOM)

ASSUME THAT THE DOMINANT SEX IS MALE

SS=3-SDOM

DO 130 I=1,K

J=1+(SDOM-1)*(MALE)

ID1=ISUB(J)

C ANALIZE LINK-LINK,IF NO PARTNER EXISTS,THEN WRITE TO SCRATCH TAPE.
C WITH DEPENDANTS

C WE HAVE A COUPLE WITH FIRST SPOUSE OF SEX SDOM AND ORDER I,
C AND THE SECOND SPOUSE (IF LIST(I).NE.0) OF SEX 3-SDOM AND ORDER LIST(I).

IF (LIST(I,SDOM).GT.0) GO TO 140

READ(6,16),I1 (IA(J),J=1,2)

IF (IDLEV2(I1,SDOM).GT.0) GO TO 270

IAGE=IA(I1)

IPROV=IA(I1)

INCOME=IA(I1)

CALL LOGN(IPROV,INCOME,IAGE)

IA(I1)=IPROV

ICN12=ICNT2+1

LCV=LCV+1

LCVD=LCVD + 1

WRITE(10,V,3) (IA(JX),JX=1,23)

FORMAT(23A4)

GO TO 250

270 WRITE(IDLEV2,20) (IA(J),J=1,24)

290 NH3=IA(4)-1

IF (NH3.FG.0) GO TO 130

DO 150 J=1,NH3

KK=IA(4)-1+J

IF (IDLEV2.NE.IDEV4) GO TO 300

IC(KK,3)=IPROV

ICN12=ICN12+1

WRITE(IDLEV2,20) (IC(KK,L),L=1,23)

LCVD=LCVD + 1

GO TO 150

300 WRITE(IDLEV2,20) (IC(KK,L),L=1,24)

150 CONTINUE

GO TO 150

C

C IF LINK-LIST PRODUCES A PARTNER THEN WRITE HEADS + DEPENDS TO TAPE.

```

0119 READ(8,101,71) (ICOUPL(J,SDDM),J=1,25)
0120 ID1=LIST(1,SDDM)+(SS-1)*MALE
0121 ID1=ISUC(ID1)
0122 IFF=IFF+1
0123 READ(8,101,71) (ICOUPL(J,SS),J=1,25)
0124 IAC1=IA(7)
0125 IPRCV=IA(3)
0126 IFCNT=IA(2)
0127 CALL LUCTN(IPRCV,INCOME,IAGE)
0128 IAC2=IPRCV
0129 IB(3)=IPRCV
0130 NH1=IA(4)-1
0131 NH2=IB(4)-1
0132 NDN=IA(2)
0133 IL(2)=NUM
0134 NNHH=2+NH1+NH2
0135 ICOUPL(4,1)=NNHH
0136 ICOUPL(4,2)=NNHH
0137 ICOUPL(5,2)=1
0138 ICOUPL(6,1)=2
0139 ICOUPL(6,2)=2
0140 ICNT2=ICNT2+NNHH
0141 LOUD=LOUD+2

```

```

0152      IPR= 1+IPRUV/5+IPROV/6+IPRUV/7
0153      IHC =IA(24)-1000*(IA(24)/1000)
0154      IWC =IB(24)-1000*(IB(24)/1000)
0155      IAH=IHC/10
0156      IAV=IWC/10
0157      IFH=IHC-10*IAH
0158      IFW=IWC-10*IAW
0159      NEWAGE(IEH,IAW,IFW,IPR)=NEWAGE(IAH,IAW,IPR) +
0160      NEWEDU(IEH,IAW,IFW,IPR) + IE(16)
0161      NEWAGE(IAH,IAW,6)=NEWAGE(IAH,IAW,6)+IA(16)
0162      NEWEDU(IEH,IFW,6)=NEWEDU(IEH,IFW,6)+IB(16)
0163      WRTTE(10LV4,6) = (IA(JX),JX=1,4,5)
0164      WRTTE(10LV4,5) = (IB(JX),JX=1,23)
0165      IF(NH1.LG.0)GO TO 160

```

```

0167 DO 170 J=1,NH1
0168 KK=IA(25)-1+J
0169 IC(KK,4)=NNFH
0170 IC(KK,5)=IPFUV
0171 LQD=LQD + 1
0172 WHITE(1D,V4,J)
0173 CONTINUE
0174 IF(CH2*10,0)GO
0175 DO 230 J=1,NH2
0176 KK=ID(25)-1+J
0177 IC(KK,2)=NUM
0178 IC(KK,4)=NNFH
0179 IC(KK,5)=IPFUV
0180 WHITE(1D,V4,J)
0181 LQD=LQD + 1
0182 CONTINUE
0183 IF(CH2*10,0)GO
0184 DO 130

```

CONTINUED


```

C      1 1  THERE ARE ANY MORE PROVINCES TO GO THE GO BACK TO START
C
0160  IF=IP+1
0161  IF(IP*61.10)GO TO 187
0162  GO TO 1
C
C      CHECK TO SEE IF THE FLAG IS SET,IF IT IS,REWIND TAPES AND EXIT.
C      IF NOT SET FLAG AND CHANGE DEVICE ALLOCATIONS AND GO TO START.
C
0163  IF(IFLG*66.1) GO TO 180
0164  IF=6-1
0165  IF=V1-1*V2
0166  IF=V1-1*V4
0167  IF=V1-1*V4
0168  IF=V1-1*V4
0169  IF=V1-1*V4
0170  IF=V1-1*V4
0171  IF=V1-1*V4
0172  IF=V1-1*V4
0173  IF=V1-1*V4
0174  IF=V1-1*V4
0175  IF=V1-1*V4
0176  IF=V1-1*V4
C
0177  IF=V1-1*V4
0178  IF=V1-1*V4
0179  IF=V1-1*V4
0180  IF=V1-1*V4
0181  IF=V1-1*V4
0182  IF=V1-1*V4
0183  IF=V1-1*V4
0184  IF=V1-1*V4
0185  IF=V1-1*V4
0186  IF=V1-1*V4
C
0187  IF=V1-1*V4
0188  IF=V1-1*V4
0189  IF=V1-1*V4
0190  IF=V1-1*V4
0191  IF=V1-1*V4
0192  IF=V1-1*V4
0193  IF=V1-1*V4
0194  IF=V1-1*V4
0195  IF=V1-1*V4
0196  IF=V1-1*V4
C
0197  IF=V1-1*V4
0198  IF=V1-1*V4
0199  IF=V1-1*V4
0200  IF=V1-1*V4
0201  IF=V1-1*V4
C
0202  IF=V1-1*V4
0203  IF=V1-1*V4
0204  IF=V1-1*V4
C
0205  IF=V1-1*V4
0206  IF=V1-1*V4
C
0207  IF=V1-1*V4
0208  IF=V1-1*V4
0209  IF=V1-1*V4
0210  IF=V1-1*V4
0211  IF=V1-1*V4

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0001 SUBROUTINE LUCTN(PROVIN,INCOME,AGE,L)
0002 INTEGER AGE
0003 INTEGER PROVIN,REGION
0004 DATA IX(7,42,9)/
0005 COMMON/ALL/PRINT,IR
0006 COMMON/PSS5/ PST1(25),PST2(25),PST3(25),PST4(25),PST5(25)
0007 ,TRF6(5,5),TRMAK1(4,10),IRPRA(3,10)
0008 DIMENSION PSTAY(5,5,5)
0009 EQUIVALENCE (PSTAY(1,1,1),PST1(1))
0010 C PSTAY(INC-CODE,AGE-CODE,REGION) PROB/TIES THAT IND/L WILL STAY
0011 C INC-CODE= 1 ( 0 -1499)
0012 2 (1500-2999)
0013 3 (3000-4499)
0014 4 (4500-5999)
0015 5 (7000 & OVER)
0016 C AGE-CODE = 1 (14-24 YRS)
0017 2 (25-35 YRS)
0018 3 (36-45 YRS)
0019 4 (46-64 YRS)
0020 5 (65 YRS & OVER)
0021 C COMPUTE INDICES.
0022 C
0023 C REGION= 1 + PROVIN/5 + PROVIN/6 + PROVIN/7
0024 C
0025 INC=1 + INCOME/1500
0026 IF(INC.LT.1) INC=1
0027 IF(INC.LE.3) GO TO 5
0028 INC=4
0029 IF(INCOME.GE.7000) INC=5
0030 5
0031 IA=5
0032 IF(AGE.GE.65) GO TO 10
0033 IA=4
0034 IF(AGE.GE.46) GO TO 10
0035 IA=3
0036 IF(AGE.GE.36) GO TO 10
0037 IA=2
0038 IF(AGE.GE.25) GO TO 10
0039 IA=1
0040 10 CONTINUE
0041 C CHECK IF IND/L WILL STAY IN REGION OF RESIDENCE.
0042 C
0043 C PRO = PSTAY(INC,IA,REGION)
0044 CALL RANDU(IX,IY,X)
0045 IX=IY
0046 NREGIO=REGION
0047 IF(X.GT.PPR) GO TO 50
0048 C THE NEW REGION OF RESIDENCE IS NREGIO.
0049 C DETERMINE NEW PROVINCE.
0050 20 GO TO (61,62,63,64,65),NREGIO
0051 62 PROVINCE=3+NREGIO
```



```

0032      C 10 999
0033      C 65  PRVIN = 10
0034      C 60 TO 999

C
C IND/L GOES TO MARITIMES. DECIDE WHICH PROVINCE.
C
61      CALL RANDU(IX,IY,X)
      IX = IY
      DO 70 IP=1,4
      IF( = IRMAK(I,PRVIN)
      IF(X,GT,PRD) GO TO 70
      PRVIN = IP
      GO TO 999
70      CONTINUE
      WRITE(IPNT,102) X,PRVIN
102      FORMAT(IX,*,**SEARCH FOR ATL,PROVINCE FAILED. X=,F9.5,
      , PRVIN=,I4)
      GO TO 999

C
C IND/L GOES TO PRAIRIES. DECIDE ABOUT THE PROVINCE.
C
64      CALL RANDU(IX,IY,X)
      IX = IY
      DO 80 IP=1,3
      PRD = TRPRA(IP,PRVIN)
      IF(X,GT,PRD) GO TO 80
      PRVIN = IP + 6
      GO TO 999
80      CONTINUE
      WRITE(IPNT,103) X,PRVIN
103      FORMAT(IX,*,**SEARCH FOR PRAIRIE PROVINCE FAILED. X=,F9.5,
      , PRVIN=,I4)
      GO TO 999

C
C THE IND/L WILL CHANGE REGION OF RESIDENCE. DECIDE FOR IT.
C
90      CALL RANDU(IX,IY,X)
      IX = IY
      DO 100 NREG=1,3
      IF(NREG,EO,REGION) GO TO 100
      PRD = TRREG(NREG,REGION)
      IF(X,GT,PRD) GO TO 100
      NREGIO = NREG
      GO TO 100
100      CONTINUE
      WRITE(IPNT,101) X,REGION
101      FORMAT(IX,*,**SEARCH FOR NEW REGION FAILED. X=,F9.5, , P=,I4)
      RETURN
      END

```



```

C PRPF(1,A,2) : POPULATION ARRAY (INPUT THRU COMMON)
C PROBABILITY(A2,I2/A1,E1,S) =PRA(S,A1,A.)*PRE(S,E1,L2)
C
C THAT IS, PROBABILITY FOR IND/L OF SEX S,AGE A1,EDUCATION E1 TO CHOOSE
C SPOUSE OF AGE A2 AND EDUCATION E2 (OF COURSE, OF SEX 3-S)
C
C CPRA(S,A1,A2) : TO DECIDE ABOUT A2
C CPRE(S,A2,E1,E2) : TO DECIDE ABOUT E2
C FLGA(S,A)E1 IF THERE EXISTS AT LEAST ONE IND/L OF SEX S,AGE A.
C =0 OTHERWISE.
C FLGE(S,A,E)-1 IF THERE EXISTS AT LEAST ONE IND/L OF SEX S,AGE A.
C =0 OTHERWISE.
C THLSL FLAGS ARE SET TO ENSURE THAT THE SEARCH OF A SPOUSE OF GIVEN
C CHARACTERISTICS BE KNOWN IN ADVANCE AS SUCCESSFUL OR NOT.
C
C PRA(A2,A1,S) : PROBABILITY FOR IND/L OF SEX S AND AGE A1 TO CHOOSE
C MATE OF AGE A2.
C PRE(E2,E1,S) : SIMILARLY FOR EDUCATION CODES E1 AND E2.
C
C SUBROUTINE MATCH(SDOM,ISW)
C INTEGER SDOH
C INTEGER SEX,SSEX,A,L,FLGA,FLAG,S,A1,A2,F1,E2
C INTEGERE1,MAKESU,MPOP(3,10,2)
C
C COMMON/BLOCK1/MEAS(3,10,2),MARESU(2000,2)
C
C DIMENSION PRA(10,10,2),PRE(3,3,1),PRMA1(100),PRMA2(100)
C EQUIVALENCE (PRA(1,1,1),PRMA1(1)),(PRA(1,1,2),PRMA2(1))
C DATA PRMA1/
C .00091,.00040,.00040,.00023,.00023,.00008,.00001,
C .00496,.00076,.00026,.00009,.00002,.00032,.00001,
C .04268,.00928,.00262,.00064,.00012,.00007,.00005,
C .10950,.00344,.01001,.00465,.00140,.00066,.00033,
C .23952,.17349,.07895,.03246,.00523,.00249,.00110,
C .20027,.21362,.10207,.10173,.00444,.03135,.00422,
C .11979,.10100,.22774,.23011,.09012,.03100,.01183,
C .00880,.11705,.19340,.25052,.20740,.09139,.01891,
C .01927,.05103,.13026,.23294,.23048,.20098,.09650,
C .00927,.01330,.04914,.11776,.15160,.24896,.40009/
C DATA PRMA2/
C .01437,.00314,.00126,.00029,.00066,.00010,.0001,
C .04532,.01202,.00343,.00115,.00274,.65591,.25602,
C .19623,.07825,.03327,.01027,.00302,.00163,.00056,
C .28157,.20776,.12028,.05536,.01790,.00623,.00273,

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0001
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0009


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0010      1.15727..26639..0349..14810..0149..01805..00170.
      0.05420..02052..00798.
      0.0182..00823..03429.
      0.07019..16650..0041..04679..11955..00795..03357.
      0.0114..00391..00905.
      0.02266..07689..16945..0492..18022..14567..09028.
      0.0184..00123..00307.
      0.01943..02271..08778..19551..24246..23020..20074.
      0.0082..00184..00246.
      0.00656..01557..05445..08776..14262..26803..44016.
      0.0001..00001..00177.
      0.00555..00669..01604..03548..03191..13918..76507/
C
C      DATA PRE/
      1.61768..05041..04191.
      1.6203..71942..11855.
      1.04781..48245..46934.
      1.72208..24001..05230.
      1.21154..00697..18154.
      1.08524..33149..58027/
C
C      DATA 1X/756431/
      DATA NA,NE/10,3/
C
C      COMMON/PL/FLAGA(2,10),FLAGE(2,10,3),CPRA(2,10,10),CPRE(2,10,3,3)
      A , IADDS(21,2)
C
C      INITIALIZE CHOOSING SEX 'SEX' AND ACCEPTING SEX 'SSEX', ALSO FLAG ISW.
C
C      COMMON/ALL/ID,IN
      15X=1
      15X=2
      15W=0
      10 759 L=1,NE
      10 759 A=1,NA
      10 759 S=1,E
      759 MPQP(E,A,S)=MLAS(E,A,S)
C
C      INITIALIZE FLAGS 'FLAGA' AND 'FLAGE'...
C
      10 10 S=1,2
      10 10 I=1,E
      CALL INFLAC(S,1,NA,NE,MPQP)
      10 CONTINUE
C
C      COMPUTE CUMULATIVE PROBABILITYS(INITIALIZE)
C
      20 20 S=1,2
      CALL CUMPRG (NA,NE,S,PRA,PRES)
      20 CONTINUE
C
C      INITIALIZE MARRIAGE COUNTER, MARRIAGE MATCHING INDICATORS MARESU(1,S),
C # OF POSSIBLE COUPLES NWED AND ADDRESSES IADDS(1,S).
      NMAPEO
      NWED=9999999
      SDOM=1

```

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00210022
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00250026
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00280029
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```

0032 DO 30 SE=1,2
0033   K=1
0034   K=1
0035   LN=0
0036   IADDS(1,S)=1
0037   DO 35 A=1,PA
0038     DO 35 E=1,NE
0039     RC=MC+MPCP(E,A,S)
0040     K=K+1
0041     IADDS(K,S)=RC
0042     NN=NN+MPCP(E,A,S)
0043     IF(NN.GE.NWED) GO TO 34
0044     NED=NN
0045     SDOM = 3-S
0046     DO 30 I=1,2000
0047     30 MARES(U,S)=0
0048
0049 C IF NO COUPLES CAN BE FORMED , FINISH
0050 C
0051 C IF(NWED.LE.0) GO TO 700
0052
0053 C THE FOLLOWING DO 500 LOOP SWEEPS ALL GROUPS (A,E) FOR THE SEX 'SEX' AND
0054 C MARRIES THE 10%(APPROX.) OF THE POPULATION OF THE GROUPS (A,E,SEX).
0055 C
0056   100 DO 500 A=1,NA
0057     DO 500 E=1,NE
0058     C CHECK IF POPULATION IS EMPTY, IF NOT CONSIDER 10% OF THEM FOR IMMEDIATE
0059     C MARRIAGE CEREMONY.
0060     LLE=MPUP(I,A,SEX)
0061     IF(LL) 500,500,101
0062     LL=(LL+5)/10
0063     IF(LL) 102,102,103
0064     LL=1
0065
0066 C TAKE LL INDIVIDUALS OF CHAR/STICS (A,E,SEX)
0067 C THOSE INDIVIDUALS HAVE STARTING ADDRESS ISTART AND FINISHING IEND
0068 C
0069   103 DO 1029 L=1,LL
0070     KIND = (A-1)*NF + E
0071     ISTART=IADDS(KIND,SEX)
0072     IF(LD =IADDS(KIND+1,SEX) -1
0073
0074 C CALL S/R SEARCH TO FIND FROM ISTART TO IEND INTERVAL THE FIRST
0075 C INTEGER K SUCH THAT MARES(U,K,SEX)=0 I.E. NOT MARRIED YET.
0076 C
0077   K=0
0078   CALL SEARCH(IDIAG,K,ISTART,IEND,SEX,MARES(U)
0079   IF(IDIAG) 104,100,104
0080   104 CONTINUE(10,800) SEX,A,E,MPCP(E,A,SEX),ISTART,IEND,K
0081   800 FORMAT(IX,'COULD NOT FIND INDIVIDUAL OF SEX ',I2,' AGE ',I3,
0082     A ' EDUCATION ',I3,' AMONG THE AVAILABLE ',10/1X,'STARTING ADDRESS ',
0083     B I6,' TO ',I6,' OF ORDER ',I5)
0084   150=1
0085   GO TO 700
0086
0087 C IT HAS BEEN FOUND INDIVIDUAL OF SEX 'SEX',AGE A,EDUCATION E AND HIS(OR HER)

```


C INDEX IS 'KK'.

C SEARCH NOW FOR AGE OF HIS(OR HER) MATE.

```

0067 105 CALL RANDU(IX,IX,X)
0068 DO 200 IA2=1,NA
0069 IF(X-CPRA(SEX,A,IA2)) 210,210,200
0070 210 IF(FLAGA(SSEX,IA2)) 200,200,211
0071 211 A=IA2
0072 GO TO 220
0073 CONTINUE
0074 WRITE(10,601) X,SEX,A,(CPRA(SEX,A,1),FLAGA(SSEX,1)),I=1,NA)
0075 601 FORMAT(1X,'RANDOM NUMBER',F9.6,' FAILED FOR SEX',I3,' AGE',I4,
0076 ' , PROB/TIES AND FLAGS:.'/20(1X,12.7,15/))
0077 ISW=1
GO TO 700

```

C SEARCH NOW FOR EDUCATION OF HIS(OR HER) MATE.

```

0078 220 CALL RANDU(IX,IX,X)
0079 DO 300 IE2=1,NF
0080 IF(X-CPRE(SEX,A2,E,IE2)) 290,290,300
0081 290 IF(FLAGI(SSEX,A2,IE2)) 300,300,291
0082 291 IE2=IE2
0083 GO TO 400
0084 CONTINUE
0085 WRITE(10,602) X,SEX,A,A2,E,(CPRE(SEX,A2,E,1),FLAGI(SSEX,A2,1)),
0086 A I=1,NF)
A FORMAT(1X,'RANDOM NUMBER',F9.6,' FAILED FOR SEX',I3,' AGE',I3,
A ' MATE AGE',I3,' EDUCATION',I2/1X,'CUM. PROB/TIES AND FLAGS:.'/
A 20(1X,12.7,15/))

```

C SO FAR INDIVIDUAL OF INDEX 'K' AND WITH CHAR/TICS (SEX,A,F) HAS CHOSEN
C FOR MARRIAGE INDIVIDUAL OF CHARACTERISTICS (SSEX,A2,E2).

C IDENTIFY NOW MATE I.E. FIND HER(OR HIS) INDEX 'KK'.

```

0087 400 HOWM=MPGP(E2,A2,SSEX)
0088 CALL RANDU(IX,IX,X)
0089 KK=X*HOWM + .99999
0090 IF(KK.LT.1) KK=1
0091 IK=HOWM + 1
0092 IF(KK.GT.1K)KK=1K
C
0093 KIND=(A2-1)*NF+IE2
0094 ISTART = IADDRS(KIND,SSEX)
0095 IEND = IADDRS(KIND+1,SSEX) -1
0096 CALL SEARCH(IDIAG,KK,ISTART,IEND,SSEX,MAPESU)
0097 IF(IDIAG) 410,420,410
0098 410 WRITE(10,603) SSEX,A2,E2,MPGP(E2,A2,SSEX),ISTART,IEND,KK
0099 ISW=1
0100 GO TO 700

```

C PRONOUNCE THEM MAN AND WIFE AND RECORD THEIR MARRIAGE.

```

0101 420 NMAR=NMAR+1
0102 MATESU(K,SSEX)=KK
0103 MATESU(KK,SSEX)=K

```



```

0104      SEX = 3-SEX
0105      IA = A
0106      IE = E
0107      GO 450 IK=1,2
0108      MPUP(IE,IA,S)=MPUP(IE,IA,S)-1
0109      IF(MPUP(IE,IA,S)) 450,450,440
0110      CALL INFLAG(S,1,NA,NE,MPUP)
0111      CALL INFLAG(S,2,NA,NE,MPUP)
0112      SEX = 3
0113      CUMPRD (NA,NE,S,PRA,PRE)
0114      IF SEX
0115      IA=A2
0116      IE=E2
0117      450 CONTINUE

C CHECK IF ALL MARRIAGES HAVE BEEN PERFORMED.
C
C
1029      IF(NMAR-NWED)1029,700,700
1100      CONTINUE
500      CONTINUE

C SWITCH SEXES AND START THE 10% MATCHING PROCESS ALL OVER AGAIN.
C
C
SEX = 3-SEX
SEX = 3-SEX
GO TO 100
700      RETURN
C WELL DONE
C
0120
0121
0122
0123
0124
0125

```



```

0001 SUBROUTINE INFLAG(S,INDEX,NA,NE,MPOP)
0002   INFLAG(S,MPOP(3,10,4))
0003   C 0001 S/PL/FLAG(2,10),FLAG(2,10,3),CPRA(2,10,10),CPRE(2,10,3,3)
0004   A ,100000(J1,,)
0005   C
0006   C INDEX=1 MEANS INITIALIZE FLAGA
0007   C =2 MEANS INITIALIZE FLAG
0008   C
0009   C INTEGER FLAGA,FLAG,S,A,E
0010   IF (INDEX-1) 100,100,200
0011   DO 110 A=1,NA
0012   FLAGA(S,A)=0
0013   IF (MPOP(L,A,S)) 105,105,103
0014   FLAGA(S,A)=1
0015   GO TO 110
0016   CONTINUE
0017   GO TO 999
0018   DO 210 A=1,NA
0019   FLAG(S,A,E)=0
0020   IF (MPOP(L,A,S)) 210,210,205
0021   FLAG(S,A,E)=1
0022   CONTINUE
0023   C
0024   999 RETURN
0025   END

```



```
0001 SUBROUTINE CUMPRU (NA,NE,S,PRA,PRL)
0002 COMMON/FL/FLAGA(2,10),FLAGE(2,10,3),CPRA(2,10,10),CPRL(2,10,3,3)
C
0003 A , IADDS(31,2)
0004
C
C DIMENSION PRA(10,10,2),PRE(3,3,2)
C INTEGER A1,A2,S,FLAGA,FLAGE,SS,E1,E2
C
C FLAGS INDICATE THAT POPULATIONS ARE EMPTY(=0) OR NOT(=1)
C
C CPRA(S,A1,A2)=PR(GIVEN IND/L OF SEX S AND AGE A1,THE AGE OF HIS(HER)
C MATE IS <=A2)
C
C CPRL(S,A2,E1,E2)=PR(GIVEN IND/L OF SEX S,EDUCATION E1 AND HIS(HER)
C MATE IS OF AGE A2,THE MATE'S EDUCATION IS <=E2)
C
C
C SS=3-S
C DO 18 A1=1,NA
C D=0.
C DO 10 A2=1,NA
C F = FLAGA(SS,A2)
C D= D + PRA(A2,A1,S)*F
C CPRA(S,A1,A2)=D
C IF(D-1.E-10) 13,13,14
C D=0.
C GO TO 15
C E=1./D
C DO 16 A2=1,NA
C CPRA(S,A1,A2)=D*CPRA(S,A1,A2)
C IF(CPRA(S,A1,NA)-1.) 17,18,17
C CPRA(S,A1,NA)=1.
C CONTINUE
C DO 80 E1=1,NE
C DO 80 A2=1,NA
C D=0.
C DO 30 E2=1,NE
C F = FLAGA(SS,A1,E2)
C D= D +PRE(E2,E1,S)*F
C CPRL(S,A2,E1,E2) = D
C IF(D-1.E-10) 35,35,40
C D=0.
C GO TO 50
C D=1./D
C DO 60 E2=1,NE
C CPRL(S,A2,E1,E2)=D*CPRL(S,A2,E1,E2)
C IF(CPRL(S,A2,E1,NE)-1.) 70,80,70
C CPRL(S,A2,E1,NE)=1.
C CONTINUE
C RETURN
C END
```



```
0001 SUBROUTINE SEARCH(IDIAG,K,ISTART,IEND,S,MARESU)  
0002 INTEGER*2 MARESU(2000,2)  
0003 INTEGER S
```

C
C

```
0004 IDIAG=0  
0005 IF(K) 10,10,20  
0006 DO 15 IK=1,START,IEND  
0007 IF(MARESU(IK,S))15,13,15  
0008 K=IK  
0009 GO TO 99  
0010 CONTINUE  
0011 IDIAG=1  
0012 GO TO 99  
0013 N=0  
0014 DO 25 IK=1,START,IEND  
0015 IF(MARESU(IK,S)) 25,23,25  
0016 N=N+1  
0017 IF(N-K) 25,24,24  
0018 K=IK  
0019 GO TO 99  
0020 CONTINUE  
0021 IDIAG=1  
0022 RETURN  
0023 END
```


0001
0002
0003

SUBROUTINE FTH1G(STRING)
COMMON/11/ ARRY

INTLGR#2 ALPHA(64)/ A... B... C... D... E... F... G... H... I...
J... K... L... M... N... O... P... Q... R... S... T... U... V...
W... X... Y... Z... 1... 2... 3... 4... 5... 6... 7... 8...
9... 10... 11... 12... 13... 14... 15... 16... 17... 18... 19... 20...
*NUM#2(2).IY#4.SAVE#4.WCNT#2.WC#4.TUT#4
REAL#8 LINE(13,8,6)/624#1
INTLGR#2 STRING(39),AMP#2/' a'/'
DIMENSION LST1(40),LST2(6)
EQUIVALENCE(IY,NUM(1))
COMMON/ALL/10,1N
J=1

DO 10 I=1,39
IY=0
NUM(2)=STRING(I)
SAVE=IY
NEW(J)=IY/256+1077952512
IX=SAVE/256
IX=IX#256
IX=SAVE-IX+1077952512
NEW(J+1)=IX
J=J+2
10

C --- PRODUCE AN ARRAY OF WORD COUNTS
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C

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0035

LCNT=0
WCNT=0
DO 20 I=1,78
IF(NEW(I).NE.AMP) GO TO 6
IF(LCNT.EQ.0) GO TO 7
WCNT=WCNT+1
LST1(WCNT)=LCNT
GO TO 7
6 IF(NEW(I).NE.ALPHA(39))GO TO 30
IF(LCNT.EQ.0)GO TO 20
WCNT=WCNT+1
LST1(WCNT)=LCNT
LCNT=0
GO TO 20
30 LCNT=LCNT+1
20 CONTINUE

C --- PRODUCE AN ARRAY OF LINE COUNTS
C
C

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0047
0048

J=1
WC=0
TOT=0
DO 40 I=1,WCNT
TOT=TOT+LST1(I)
70 IF(TOT+1.LE.14)GO TO 50
IF(WC.EQ.0)GO TO 60
LST.(J)=AC
TOT=LST1(I)
J=J+1
WC=0
GO TO 70
50 WC=WC+1

0049
0050
0051
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0055
0056

TOT=TOT+1
60 TO 40
LST2(J)=1
TOT=0
J=J+1
WC=0
40 CONTINUE
LST2(J)=WC

C
C
C

--- START MAIN PROCESS TO SELECT WORDS AND SPACE INTO LINES

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0101

IAD=0
IF(J.EQ.2.OR.J.EQ.3)IAD=1
IF(J.EQ.1)IAD=2
ICC=1
ICT=0
DO 80 LIN=1,J
ISUM=0
L=LST2(LIN)
IF(L.EQ.0)GO TO 90
DO 100 I=1,L
ISUM=ISUM+LST1(I+ICT)
ISP=(14-ISUM-L)/2
IF(1SP.LT.0)ISP=0
ICHR=1+ISP
DO 80 I=1,L
ICT=ICT+1
KK=LST1(ICT)
DO 110 K=1,KK
IF(ICHR.GT.13)GO TO 120
140 IF(NEW(ICC).NE.ALPHA(39))GO TO 130
ICC=ICC+1
GO TO 140
130 DO 150 LL=1,64
IF(NEW(ICC).EQ.ALPHA(LL))GO TO 160
150 CONTINUE
160 LINN=LIN+IAD
DO 170 II=1,8
170 LINE(ICHR,II,LINN)=ARRAY(II,LL)
120 ICHR=ICHR+1
ICC=ICC+1
110 CONTINUE
ICHR=ICHR+1
80 CONTINUE
90 WRITE(10,180)
180 FORMAT(1H1)
DO 220 I=1,5
220 WRITE(10,190) ((LINE(K,J,I),K=1,13),J=1,8)
190 FORMAT(8(13(2X,A8)/)/)
DO 200 I=1,6
DO 200 J=1,13
DO 200 K=1,8
200 LINE(J,K,I)=ARRAY(1,39)
WRITE(10,180)
RETURN
END

